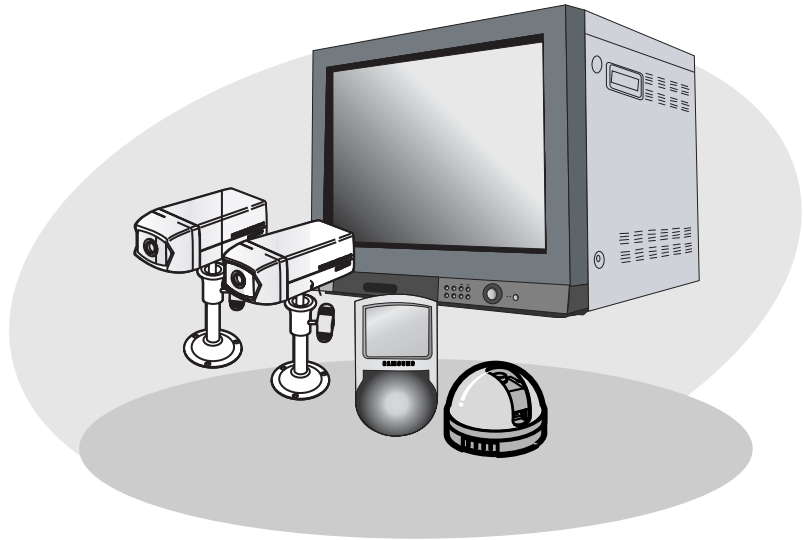




EZ View Kit:Remote MonitoringVideo Surveillance SYSTEM

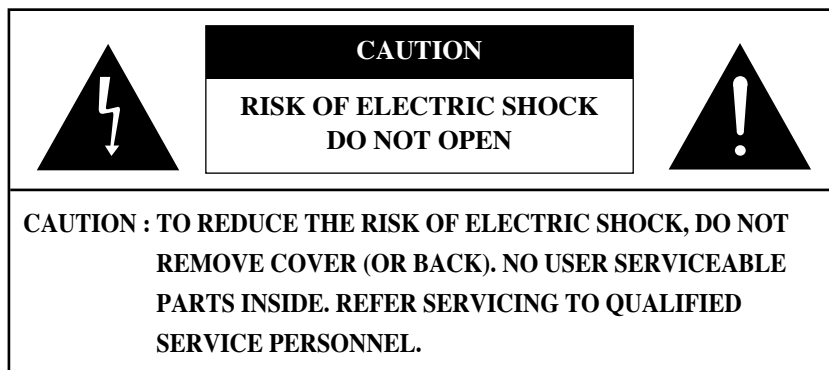
SMO-210DN
User Guide



IMPORTANT SAFETY INSTRUCTIONS

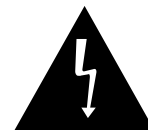
1. Read these instructions.
2. Keep these Instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs convenience receptacles and the point where they exit from the apparatus.
11. Only use attachment/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required if the apparatus has been damaged in any way. Such examples include but are not limited to:
 - Power Supply cord or plug is damaged
 - Liquid spilled or objects have fallen into the unit
 - Unit has been exposed to excessive moisture and will not function
 - Unit has been dropped.





Graphic Symbol Explanation

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Warning - To Prevent Fire or Shock Hazard, Do Not Expose This Monitor To Rain or Moisture.

IMPORTANT SAFEGUARDS

.....

Caution

Power source is indicated on the rear of the set. It contains high-voltage parts. If you remove the cover, it may cause fire or electric shock. Do not remove the cover by yourself. (Control switches are at the front of the monitor.)

.....

1. **Read Instructions :** All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions :** The safety and operating instructions should be retained for future reference.
3. **Heed Warnings :** All warnings on the monitor and in the operating instructions should be adhered to.
4. **Follow Instructions :** All operating and user instructions should be followed.
5. **Cleaning :** Unplug this monitor from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **Attachments :** Do not use attachments not recommended by Samsung as they may cause hazards.
7. **Water and Moisture :** Do not use this monitor near water. For example, near a bathtub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool. etc.

-
- 8. Accessories :** Do not place this monitor on an unstable cart, stand, tripod, bracket. The monitor may fall causing serious injury to a child or adult and serious damage to the appliance. Use only with a cart, stand, tripod, bracket or table recommended by Samsung or sold with the monitor. Any mounting of the monitor should follow Samsung's instructions and should use a mounting accessory recommended by Samsung.
 - 9. Ventilation :** Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the monitor and to protect it from overheating . These openings should never be blocked by placing the monitor on a bed, sofa, rug, or other similar surface. This monitor should never be placed near or over a radiator or heat register. This monitor should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or Samsung's instructions have been adhered to.
 - 10. Power Sources :** This monitor should be operated only from the type of power source indicated on the making label. If you are not sure of the type of power supply to your installation site consult your Samsung dealer or local power company.
 - 11. Grounding or Polarization :** For monitors equipped with a 3-wire grounding-type plug having a third(grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
 - 12. Power :** Cord Protection-Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them paying particular attention to cords at plugs convenience receptacles and the point where they exit from the monitor.

- 13. Lightning :** For added protection for this monitor during a lightning storm or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the monitor due to lightning and power-line surges.
- 14. Overloading :** Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
- 15. Object and liquid Entry :** Never push objects of any kind into this monitor through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.
Never spill liquid of any kind on the monitor.
- 16. Servicing :** Do not attempt to service this monitor yourself as opening or removing cover may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 17. Damage Requiring Service :** Unplug this monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions.
 - a. When the power-supply cord or plug is damaged.
 - b. If liquid has been spilled or objects have fallen into the monitor.
 - c. If the monitor has been exposed to rain or water.
 - d. If the monitor does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and require extensive work by a qualified technician to restore the monitor to its normal operation.
 - e. If the monitor has been dropped or the cabinet has been damaged.
 - f. When the monitor exhibits a distinct change in performance-this indicates a need for service.

18. Replacement Parts : When replacement parts are required be sure the service technician has used replacement parts specified by Samsung or have the same characteristics as the original parts.

Unauthorized substitutions may result in fire electric shock or other hazards.

19. Safety Check : Upon completion of any service or repairs to this monitor ask the service technician to preform safety checks to determine that the monitor is in proper operating condition.

FCC & ICES Information

Warning

This equipment has been tested and found to comply the limits for a class A digital device pursuant to part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates audio frequencies and, if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference in which case the user will be required to correct the interference at his own expense.

User-Installer Caution

Your authority to operate this FCC verified equipment could be voided if you make changes or modifications not expressly approved by the party responsible for compliance to part 15 of the FCC Rules.

Information to user

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE : This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference and (2) this device must accept any interference received including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. If necessary consult your dealer or an experienced radio/television technician for additional suggestions. You may find the booklet called How to Identify and Resolve Radio/TV Interference Problems helpful. This booklet was prepared by the Federal Communications Commission. It is available from the U.S. Government Printing Office Washington, DC 20402, Stock Number 004-000-00345-4.

The party responsible for product compliance:

SAMSUNG ELECTRONICS CO., LTD.

America QA Lab of Samsung

3351 Michelson Drive,

Suite #290, Irvine, CA 92612 USA

IC Compliance Notice

This Class (A) digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe (A) respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Memo



■ Chapter 1

Overview

Chapter 1 : Overview

1. Product Introduction

SMO-210DN is a Digital Video Recorder (DVR) that records video and audio data from 8 cameras to its internal HDD and plays back simultaneously. It saves video data from each channel as a separate M-JPEG file. It uses G-723 compression method to save video data. It can transfer video and audio data to external device through a network, and monitor the transferring from a remote site.

❖ DVR refers to a device that uses a hard disk (HDD) to save video and audio rather than video tapes that existing Video Cassette Recorders (VCR) use. With DVR, it is easy to playback or search videos that have been saved. Editing and transferring video images are also convenient as they are saved as digital signals.

It uses standard specifications of video and audio compression to compress, save, and transfer video. You may search according to time, date, camera, and event.

Real time remote monitoring is available, and so are search and archive.

2. Features

- 3 modes of recorded image quality adjustment
 - HIGH, NORMAL, LOW
- Various adjustments for the number of recorded fields per second
 - NTSC : 1 IPS ~ MAX 60 IPS
- Recording of video image up to the preset time before Event (Alarm) activates (Pre-Alarm)
 - OFF ~ Max 5 SEC
- Recording during playback (DUPLEX)
- Recording/Playing back of the selected channel
- Timer recording
- Alarm recording
- Various playback speeds available
- Convenient search feature
 - Date Time Search, Event (Record, Alarm) Search
- Pause feature for video currently being monitored (FREEZE)
- 2X ZOOM feature for videos being monitored and played back
- Several types of screen split modes
 - Full Screen Display, 4 Split Display, 8 Split Display, Sequence Display, PIP Display
- Remote monitoring and controlling through Network



■ Chapter 2

System Components and Installation

Chapter 2 : System Components and Installation

2-1) Requirements for installation and safety

This section describes the requirements for safe installation and use.

Install the product on a flat table or in a rack. It should be used only when level and should not be used when standing vertically or at an acute angle.

The location in which the main system is installed and the configuration of the room are very important for proper operation of the system.

When the products are installed too closely together or the location is poorly ventilated, the system may not operate properly and maintenance of the system may be difficult. Sufficiently circulate the air within the system operating room and tightly fasten the cover of the main system to prevent malfunction and reduce system downs due to environmental causes.

There are high voltage parts inside. Do not open the cover.

Install the product in a place that meets the following environmental conditions. Be sure to maintain the system under the temperatures and humidity conditions given below:

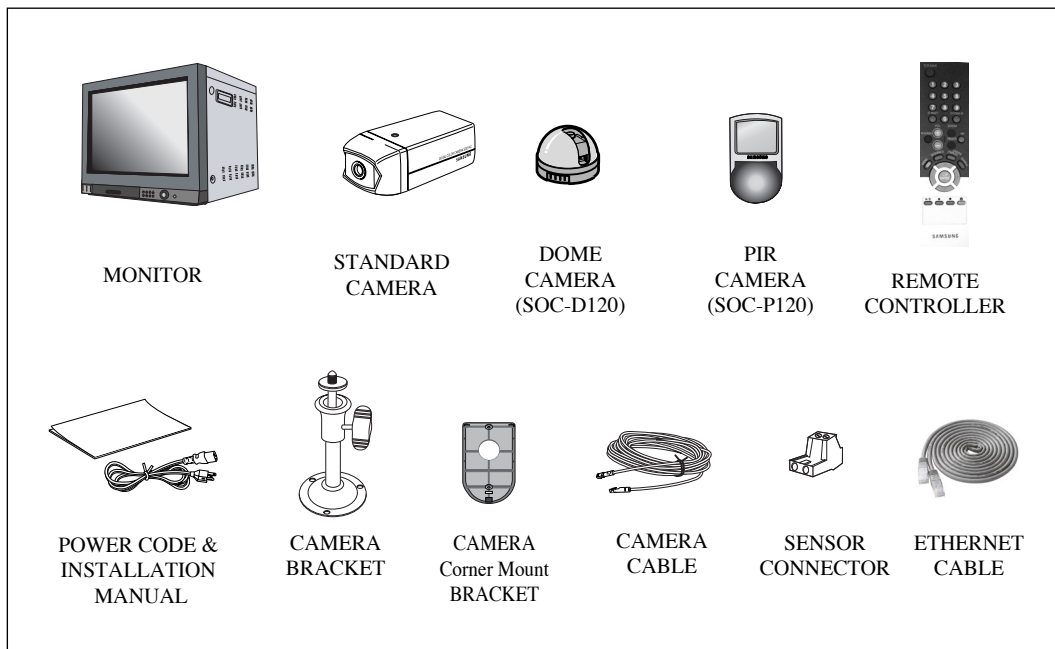
- Operating temperature : 0°F ~ 104°F
- Storage temperature : -4°F ~ 140°F
- Operating humidity : 20% ~ 85% RH
- Storage humidity : 20% ~ 95 RH
- Input voltage : AC 120V
- Power usage : less than 110 Watts
- Frequency : 60Hz

Caution

When operating the product, the fluctuation of input voltage must be within 10% of the rated voltage and the external power outlet must be grounded, otherwise, it may cause electric shock or malfunction of the product. Do not connect heat-generating appliances such as a hair dryer, iron or refrigerator to the same power outlet in which the product is plugged, otherwise it may cause a fire or malfunction of the product. The use of an Automatic Voltage Regulator (AVR) is highly recommended to ensure that stable power is supplied.

2-2) System Components

The system consists of the following:

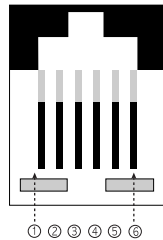
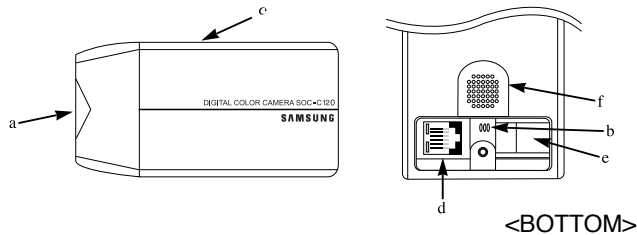


ITEM	MODEL	DESCRIPTION	Q'ty	NOTE	CODE NO.
MONITOR	SMO-210DN	21" FLAT CRT MONITOR	1		AB97-00793A
CAMERA	SOC-C120	WR(Standard) Camera	2		AB97-00720A
	SOC-D120	DOME Camera	1		AB97-00721A
	SOC-P120	PIR Camera	1		AB97-00722A
CAMERA BRACKET	SBR-110S	STAND TYPE BRACKET	2	Tapping Screw 6	AB97-00712A
CAMERA Corner Mount BRACKET	-	BRACKET FOR PIR CAMERA	1	Tapping Screw 4	AB61-00154A
CAMERA CABLE	MCB-60	6PIN SHIELD CABLE	4	60ft(1ft=0.3048m)	AB39-00044A
INSTALLATION MANUAL	-	-	1		AB68-03602A
POWER CORD	-	-	1		3903-000085
SENSOR CONNECTOR	-	-	2		3716-001152
ETHERNET CABLE	-	-	1	6ft(1ft=0.3048m)	AA39-00400A
REMOTE CONTROLLER	-	-	1	-	-

- Check whether all the following devices and accessories are included with the main system.

2-3) STANDARD CAMERA composition and installation method

1) Standard Camera composition (SOC-C120)



PIN NUMBER	SPEC
①	SPEAKER(HOT)
②	VIDEO_OUT
③	GND
④	SPEAKER(COLD)
⑤	AUDIO_OUT/ALARM_OUT
⑥	18V DC

a. Lens

It has a focal length of 3.8mm and makes it possible for you to observe a relatively wide area.

b. Microphone

Capable of picking up all sound in the vicinity of the camera location and transmitting to the monitor.

c. Camera fitting groove

Enables the camera to be fixed onto the bracket. You may install it either above or below the camera if necessary.

d. 6-pin modular jack

Used to connect the camera to the monitor.

e. SENSOR jack

Used to connect the sensor to the camera.

f. Speaker

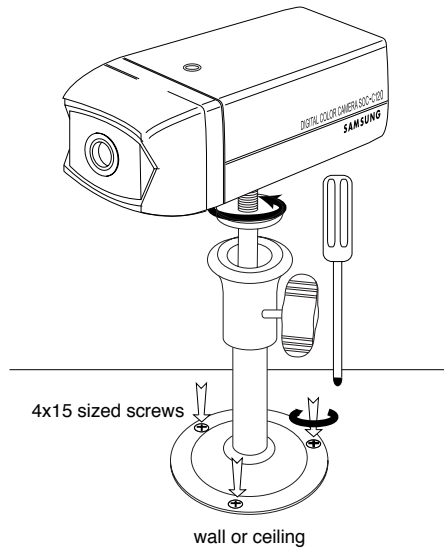
Outputs the sound signal.

2) INSTALLING STANDARD CAMERA (SOC-C120)

SOC-C120 camera can be attached to the wall, ceiling or shelf using the camera mount bracket (SBR-110S).

Choose an installation site that can sufficiently support the weight of the equipment to be installed. Attach the camera mount bracket to the wall or ceiling using the supplied three screws (M4 X L15).

Adjust the camera to target the video location and tighten the bracket handle on the camera mount bracket.



3) CAMERA MOUNT BRACKET(SBR-110) & STANDARD CAMERA(SOC-C120)

(1) Overview

CAMERA MOUNT BRACKET (SBR-110S) is used to attach the camera to a wall, ceiling or shelf.

(2) Specifications

Use : Indoor

Installation : Wall or Ceiling

Dimensions : 2.25 (W) X 1.86(H) X 3.95(L) inches

Weight : 0.29 Ibs

Operating Temperature : 32°F ~ 104°F

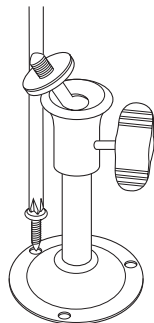
(3) Accessories

SCREW (M4 X L15) : 3 pcs

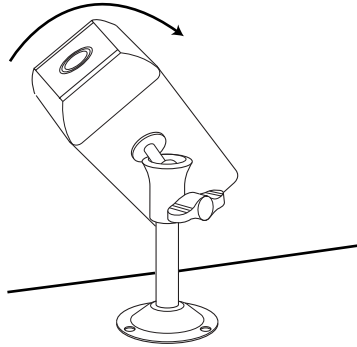
(4) Installation

Explains the installation of CAMERA MOUNT BRACKET installation, as well as installation of the camera onto the CAMERA MOUNT BRACKET.

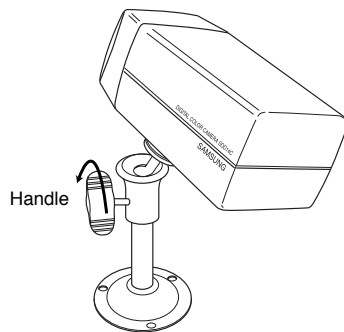
- Choose an installation site that can sufficiently support the weight of the equipment to be installed.
- Attach the camera mount bracket to the wall using the supplied screws (M4 X L15).



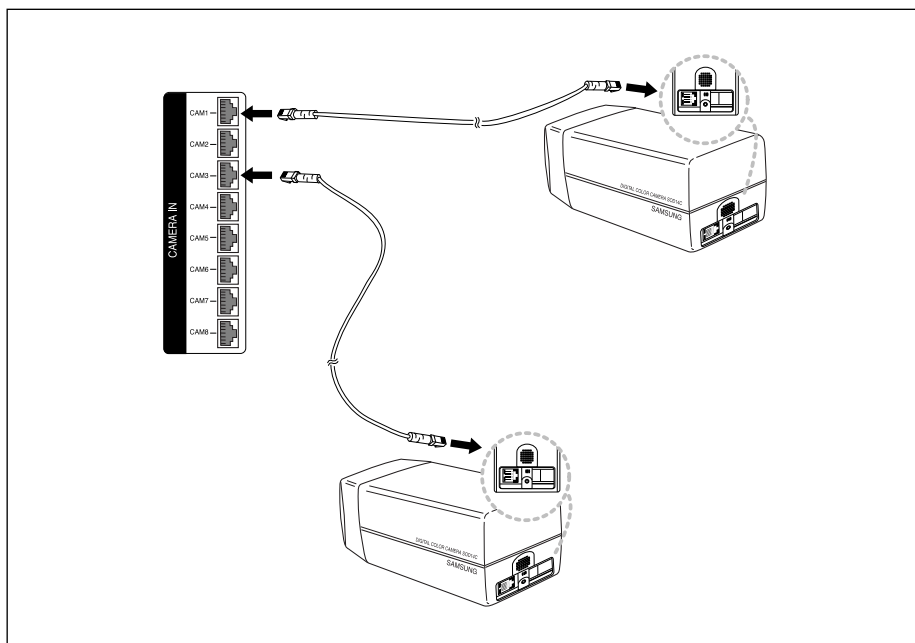
-
- Adjust the camera to target the video location and tighten the bracket handle on the camera mount bracket. Install the camera on to the male screw of the Camera Mount Bracket by rotating the camera in clockwise.



- Loosen the handle by turning it in a counter-clockwise direction and then adjust the camera position . Tighten the handle, turning it clockwise, and lock the camera in position.
- Connect the camera cable to the camera.



After positioning the monitor and installing four cameras in the desired location, please connect the CAMERA to the MONITOR using the CAMERA CABLE (MCB-60) as shown in the figure below.

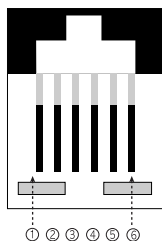
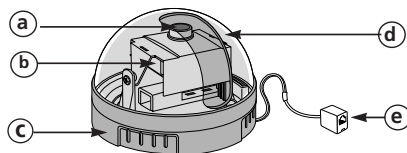


Connection status checking method :

- Turn on the monitor after connecting cameras, and check if camera image is displayed. The monitor's initial screen mode is quad.
- In the monitor and the camera are not connected properly, OSD 'L' (LOSS) will be displayed on screen.

2-4) DOME CAMERA composition and installation method (SOC-D120)

1) Dome Camera composition (SOC-D120)



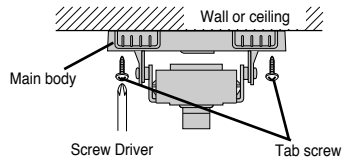
PIN NUMBER	SPEC
1	N.C
2	VIDEO_OUT
3	GND
4	N.C
5	N.C
6	12V DC

※ Fixed Dome Camera does not have a speaker, so the alarm and audio features are not supported.

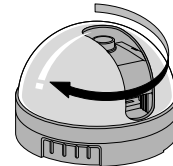
- a. Fixed Focus Lens**
Keeps the camera's lens free from dust and dirt.
- b. Lens Assembly**
- c. Camera Frame**
Supports the camera.
- d. Dome Cover**
Clear plastic cover that protects the camera.
Take care not to scratch the cover.
- e. 6Pin modular jack**
Used to connect the monitor.

2) INSTALLING THE DOME CAMERA (SOC-D120)

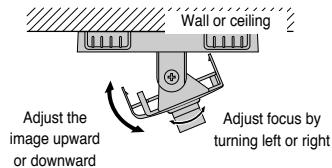
- Attach the camera to the wall or ceiling using the supplied tap screws.



- Attach the camera to the wall or ceiling using the supplied tap screws.



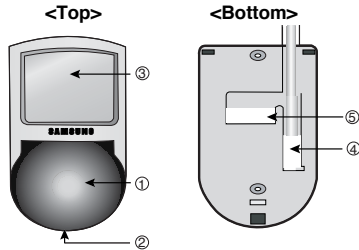
- Adjust the video location by swiveling the camera (Lens assembly) up and down, and adjust the focus by turning the lens clockwise and counter clockwise.



* Caution : When removing or closing the dome cover, do not get dirt or dust on the cover.

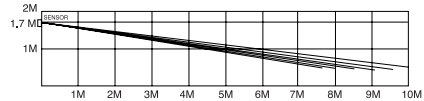
2-5) PIR CAMERA composition and installation method (SOC-P120)

1) PIR Camera composition (SOC-P120)

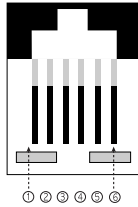


<Sensor Detection Angle & Area>

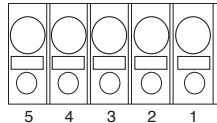
1> Vertical Detection Line



• Please consider the horizontal detection area and the vertical detection line when choosing an installation site.



PIN NUMBER	SPEC
①	SPEAKER(HOT)
②	VIDEO_OUT
③	GND
④	SPEAKER(COLD)
⑤	AUDIO_OUT/ALARM_OUT
⑥	18V DC



PIN	SPEC	
①	Power Input	DC 12 Volts
②	(Back Up)	Ground
③		Not Used
④	Relay Output	COM
⑤	(350V 130mA)	N.C

① Lens

It has a focal length of 3.8mm and makes it possible for you to observe a relatively wide area.

② Speaker

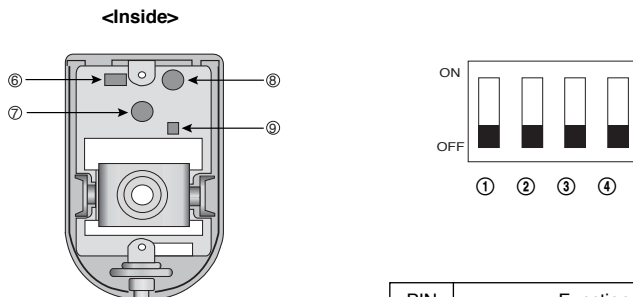
It outputs the sound signal which transferred from the monitor.

③ Fresnel Lens

An infrared focusing lens for increasing the sensitivity of the built-in PIR sensor.

④ 6-pin modular jack

Used to connect the camera to the monitor.



PIN	Function
①	Sensor Sensitivity On, On : Low On, Off : Normal Off, On : Normal Off, Off : High
②	Alarm LED On/Off (Sensor On)
③	Sensor On/Off
④	

⑥ **Function Switch**

A function switch for the PIR sensor operation.

⑦ **PIR Sensor**

A thermal heat sensor that detects infrared radiation projected by warm objects.

⑧ **Microphone**

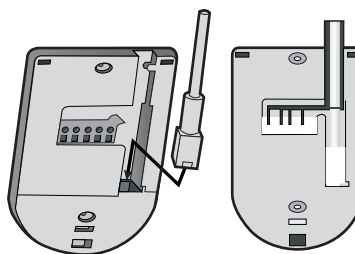
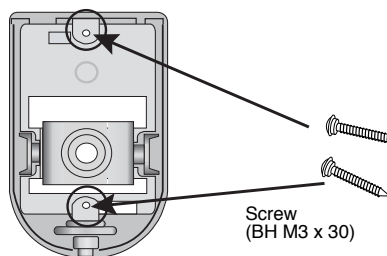
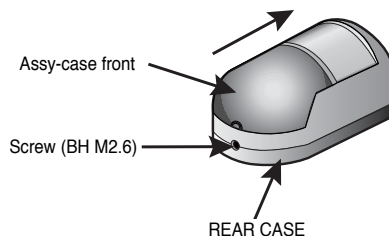
Capable of picking up all sound in the vicinity of the camera location and transmitting to the monitor.

⑨ **Electronic Relay**

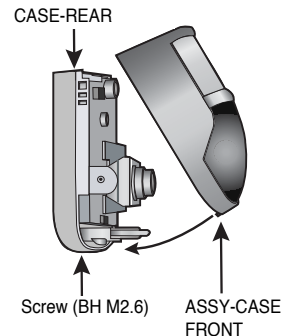
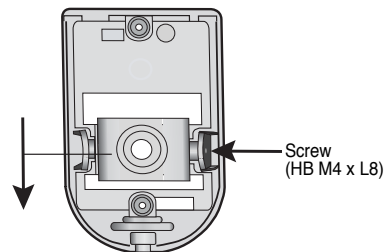
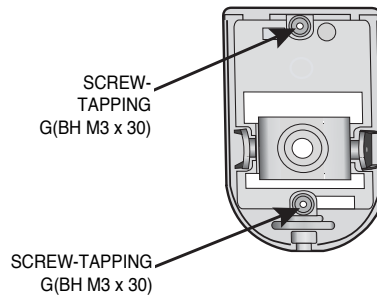
Output power is 350V/130mA.

2) INSTALLING THE PIR CAMERA (SOC-P120)

1. Choose an installation site that can sufficiently support 5 times the weight of the equipment to be installed.
2. Remove the screw (BH M2.6) at the bottom of the main unit by turning it counterclockwise, and then lift the assy-case front as you push it upward to detach it from the case-rear.
(* Do not apply excessive force, as doing so may damage the internal assembly. *)
3. Place the case-rear over the installation site and mark screw holes with a pencil (indicated by the circles in the illustration). Drill a pilot hole for each pencil mark (0.2 inch in diameter and at least 1.38 inch in depth), and then fully insert the supplied plastic anchors (HUD 5) into them.
4. Connect the Camera connector(RJ-11) cable to the case-rear as well as the cable to be connected to the terminal.

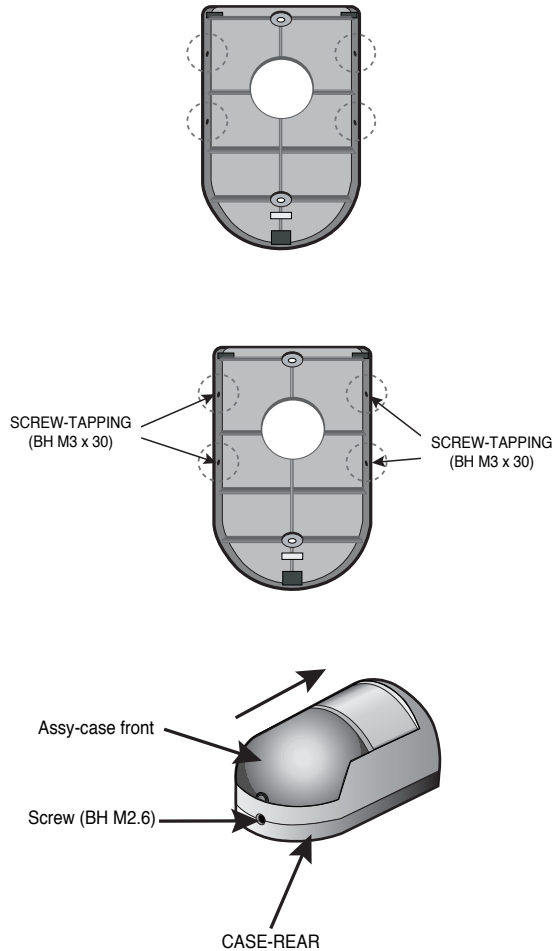


5. Align the two holes of the rear case to the holes of the plastic anchors, and then fasten the screw tappings (BH M3 X 30).
6. Adjust the direction of the lens.
 - 1) Use a philips head screwdriver to turn the screw (indicated by the arrow in the illustration) counterclockwise slightly. The lens body will move.
 - 2) Tilt the lens body down about 10° from the horizontal, and then turn the screw clockwise to fasten it.
7. Assemble the assy-case front onto the case rear as shown in the illustration. Fasten the assy-case front to the case-rear with the screw (BH M2.6) you removed earlier.



3) INSTALLING THE CAMERA USING THE CORNER MOUNT(SOC-P120)

1. Choose an installation site that can sufficiently support 5 times the weight of the equipment to be installed.
2. Place the corner mount to the corner to which you want to install the camera and mark screw holes with a pencil (indicated by the circles in the illustration). Drill a pilot hole for each pencil mark (0.2 inch in diameter and at least 1.38 inch in depth), and then fully insert the supplied plastic anchors (HUD 5) into them.
3. Install the corner mount by aligning the four holes of the mount-corner to the holes of the plastic anchors, and then fastening the screw-tappings (BH M3 X 30).
4. Remove the screw (BH M2.6) at the bottom of the main unit by turning it counterclockwise, and then lift the assy-case front as you push it upward to detach it from the case-rear.
(* Do not apply excessive force, as doing so may damage the internal assembly.*)

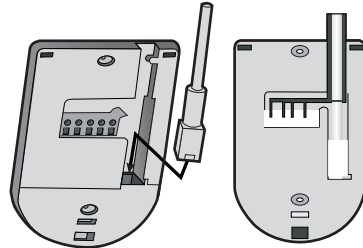


5. Connecting Cables

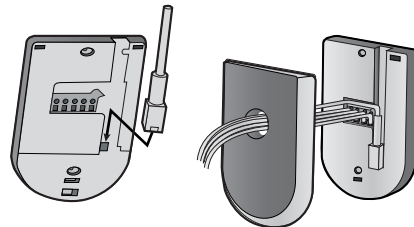
1) Connecting the RJ-11

1) cable to the RJ-11 connector on the case-rear and connect the camera cable to the cable terminal on the case-rear.

2) Pass the cables through the hole on the corner mount as shown in the picture to the right.



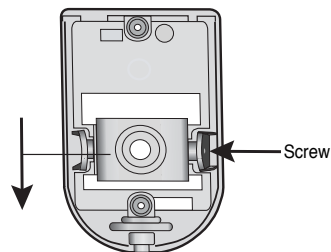
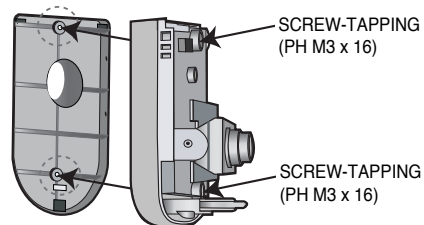
6. Assemble the case-rear onto the corner mount by aligning the two holes of the case-rear to the protrusions of the corner mount and fasten the screw-tappings (PH M3 X 16).



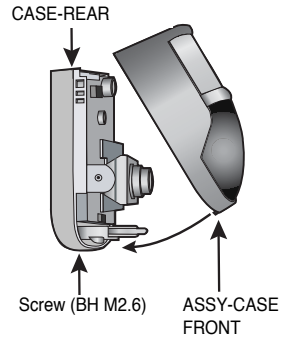
7. Adjust the direction of the lens.

1) Use a the philips head screwdriver to turn the screw (indicated by the arrow in the illustration) counterclockwise slightly. The lens body will move.

2) Tilt the lens body down about 10° from the horizontal, and then turn the screw clockwise to fasten it.

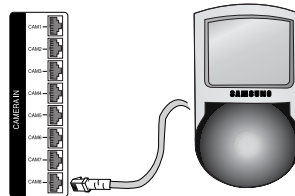


-
8. Assemble the assy-case front onto the case-rear as shown in the illustration. Fasten the assy-case front to the case-rear with the screw (BH M2.6) you removed earlier.



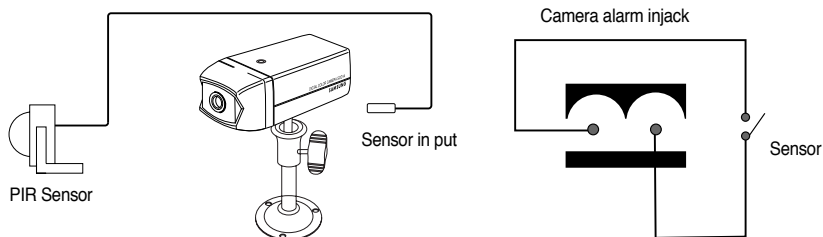
3) CABLE CONNECTION (SOC-P120)

- Connect the camera cable to the camera cable jack on the camera, then connect the other end of the cable to the monitor's channel input jack as shown in the illustration.
- Connect the alarm box to the terminal block, which is located on the bottom of the camera.

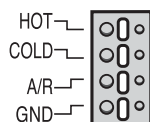


2-6) Camera and Monitor connections

1) External terminal connecting method for CAMERA

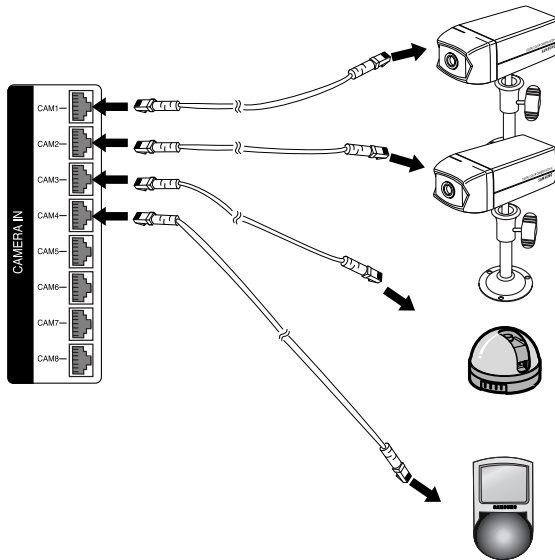


- An additional PIR sensor or external sensor can also be connected.
- The additional PIR sensor can be connected as shown in the illustration above.
- Sensor's trigger signal is NO (Normal Open).
- Sensor is not supplied. (Sold separately)

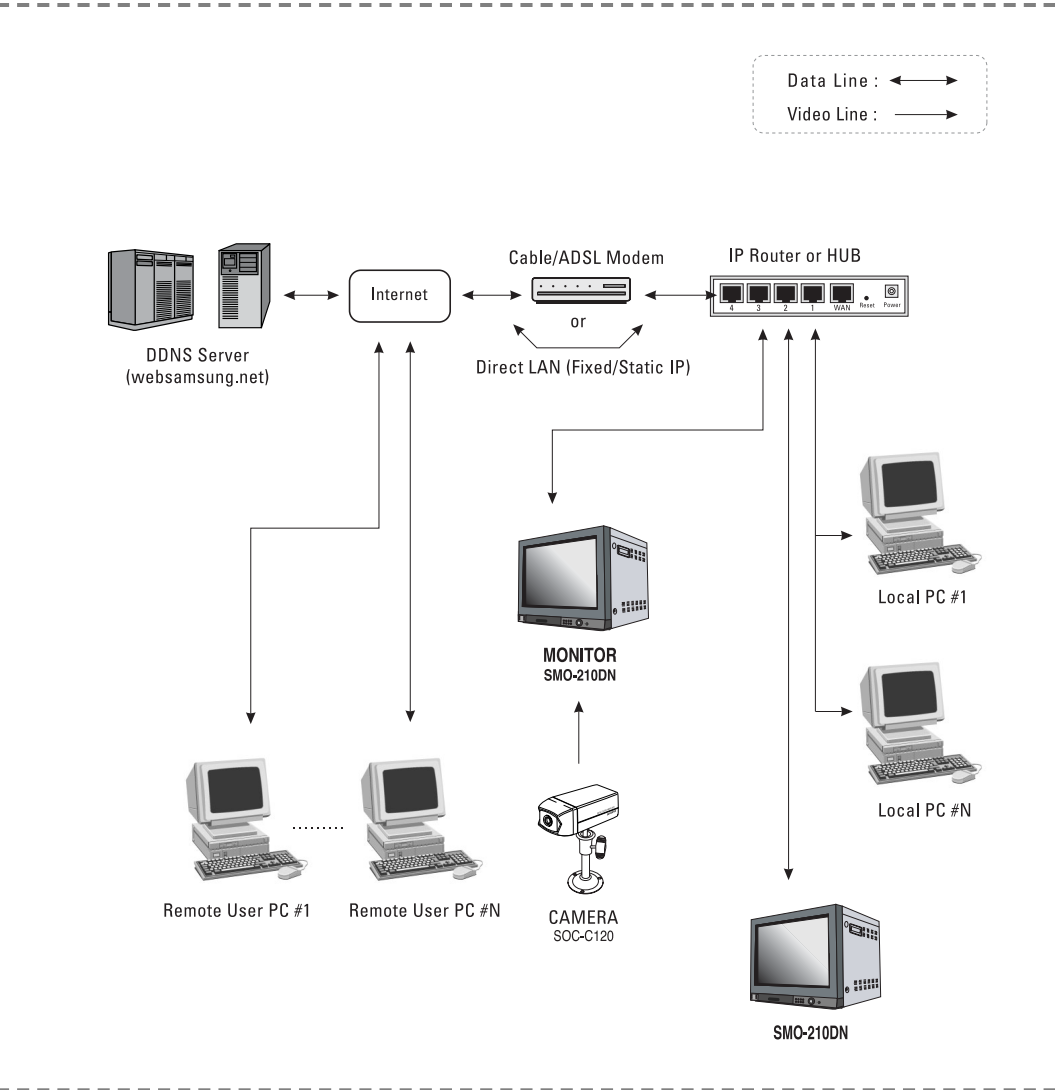


- a. Connect the A/O (HOT) terminal on the rear panel to the Alarm IN terminal of External device.
- b. Connect the A/O (COLD) terminal on the rear panel to the Ground terminal of External device.
- c. Connect the A/R terminal on the rear panel to the Alarm Reset terminal of External device.
- d. Connect the G (ground) terminal on the rear panel to the Ground terminal of External device.

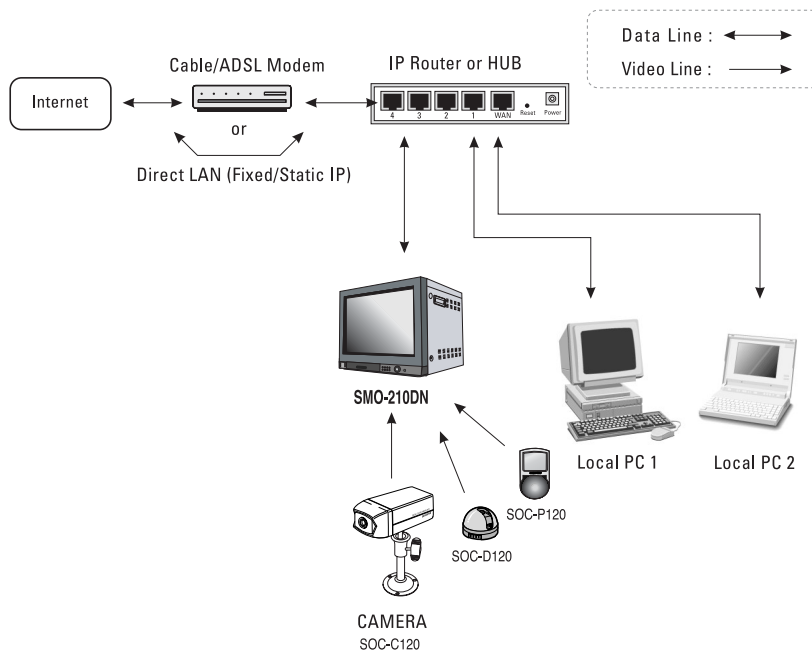
2-7) Whole System connection and configuration



2-8) Total System Configuration



2-9) Local System Configuration



1. Connect LAN cable of Cable/DSL modem or Direct Fixed/Static IP LAN Line to WAN port of IP Router.
2. Connect LAN ports of IP Router(1~4 or 1~8) to Ethernet port SMO-210DN to be set up and to Ethernet port of Local PC to use during setup.
3. Connect Video cable of Camera to MONITOR.
4. Turn on the MONITOR power.

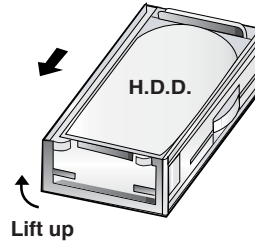
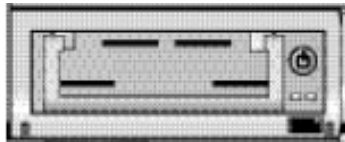
Notice

If you have a Static (Fixed) IP line or Dynamic IP line (Cable Modem or DSL Modem) with one IP address (whether its dynamic or fixed), but have more than one internet device to use (such as a PC and a SMO-210DN or several); you must use an IP Router (different from a simple Network Hub); you must set up the Router to work with the SMO-210DN and you must use a network capable PC within the local Router network to do the setup.

If you are using an existing Router which is already set up, you may not need to redo the basic setup of the Router again, but it is highly recommended that you at least read all the instructions on the following pages and go through the steps. Whether you are using an existing Router or a new Router, you must go through the Port Forwarding portion of the setup.

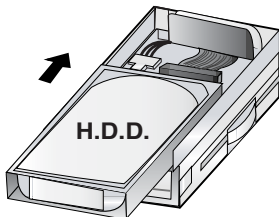
2-10) Attaching/Detaching HDD

1) Mounting HDD

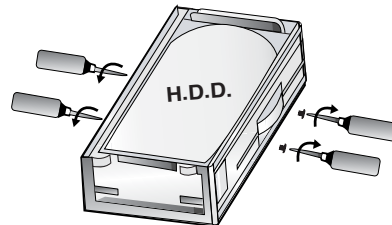


1. First, open the hard drive rack cover on the front of the main unit.
Next, open the lock on the front of the rack with the key.

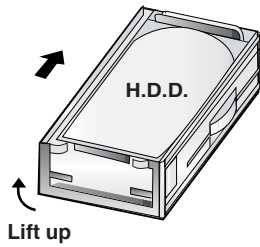
2. Remove the hard drive rack from the main unit by lifting up the handle on the front of the rack and pulling straight out.



3. Connect the removable rack's data cable and power cord to your hard drive.



4. Slide your hard drive into the removable rack and fasten with screws.



5. Lift up the rack's front handle and push the rack into the main unit.
Once the hard drive rack is fully inserted into the main unit, lower the front handle to secure it.

6. Lock the hard drive rack with the key, and then turn on the power.

Memo

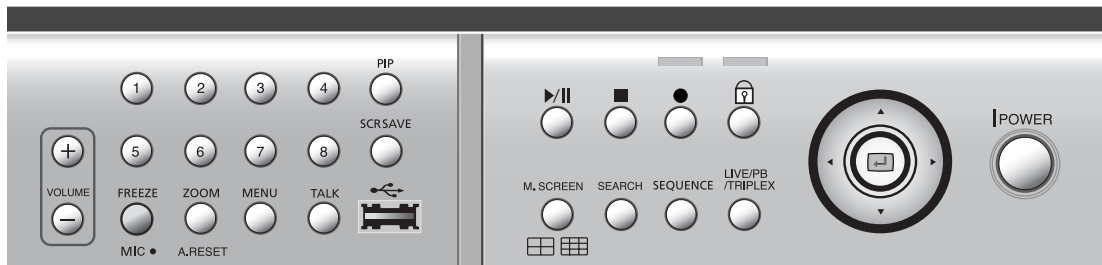


■ Chapter 3

Part names and Features

Chapter 3: Part names and Features

3-1) Monitor Front Panel Key Function and Operation

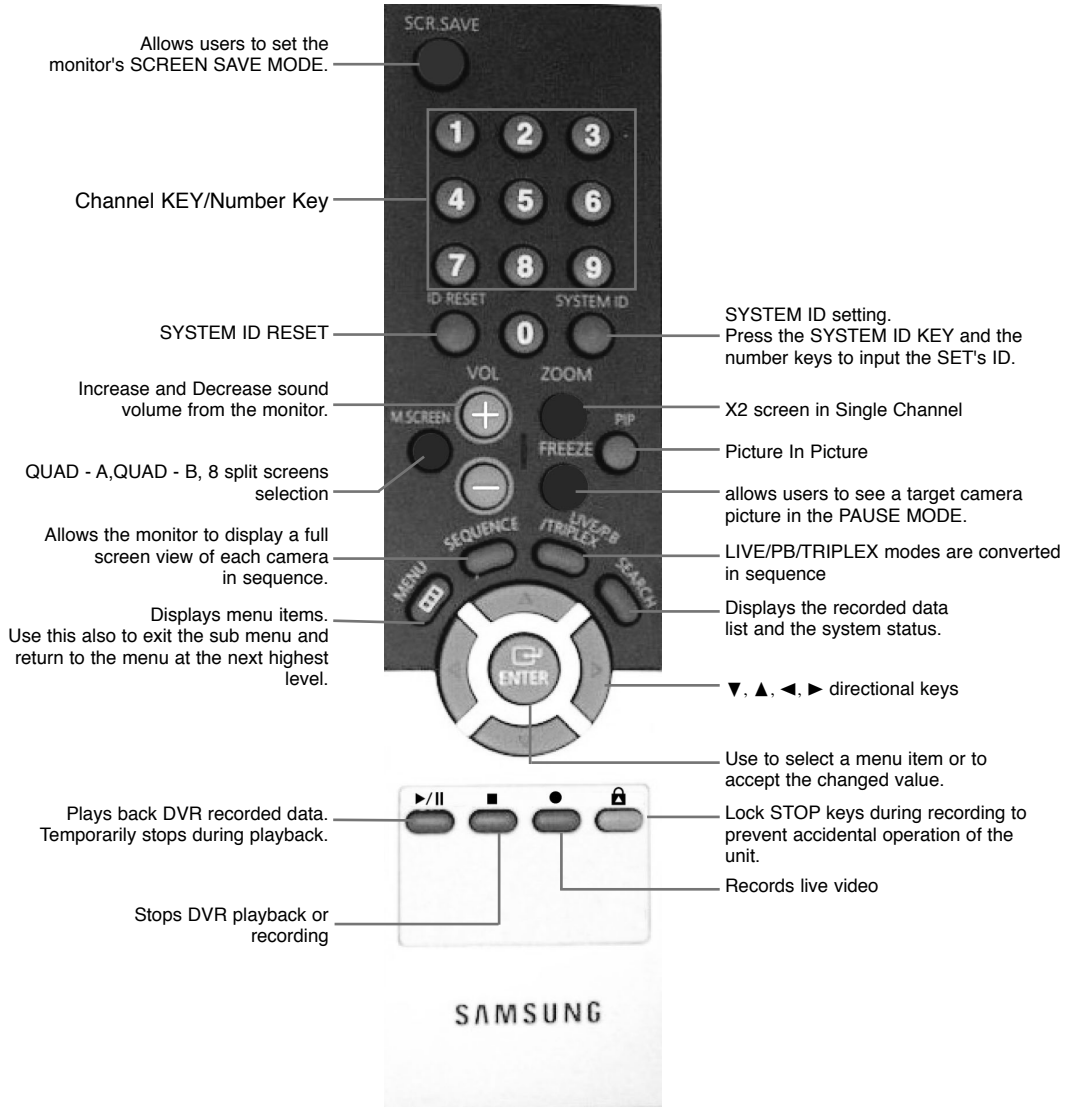


NO	KEY	FEATURE	Note
1	CH1,CH2,CH3, CH4,CH5,CH6, CH7,CH8	Pressing a CH key during LIVE/PB (Live playback) will switch the screen to SINGLE MODE and the CH screen becomes FULL SCREEN DISPLAY.	
2	TALK	(1) OFF status: Audio signal input to camera microphone comes out from monitor speaker. (2) ON status: Monitor Speaker Output OFF, audio signal input to Monitor Microphone comes out from the selected camera speaker.	
3	VOLUME	: VOL +/- (Volume Adjustment: 0 ~ 100)	
4	ZOOM/A.RESET	ZOOM: Press the ZOOM button in single screen to see 2X (enlarged) screen. Move to the desired location on the screen using up/down, left/right key while ZOOM is activated, then press the ENTER button to enlarged the picture 2X. ALARM RESET: Changes from the zoom key to the alarm reset key when the alarm goes off.	

NO	KEY	FEATURE	Note
5	SCREEN SAVE	(1) ON: Enters into power save mode. (2) OFF: Screen is displayed in a basic activation status.	
6	MENU	Displays MAIN MENU, and pressing MENU button once more will exit the MENU screen.	
7	FREEZE	Pressing FREEZE button will freeze the current screen being displayed, and pressing FREEZE button once more will cancel the freeze. Freeze marker will be displayed at the top of the screen in Freeze Mode.	
8	PIP	Pressing PIP button in Single Screen will change to PIP mode. However, at least two channels must be input. (1) Pressing up (down)/left (right) button will move sub-screen according to 1, 2, 3, 4, 5, 6, 7, 8 priority sequence and skip the Loss channel (channel with no signal) and Main screen. (2) Main/Sub-screen Switch: Screen switching will happen when pressing ENTER button in PIP screen.	
9	PLAY/STILL	Pressing PLAY/STILL button in LIVE status will switch to PLAY screen and what's recorded in HDD is played back. Pressing PLAY/STILL button again during PLAY will switch to STILL status. And pressing PLAY/STILL button again during STILL will switch the unit back to PLAY. PLAY/STILL Marker will be displayed at the top of the screen.	
10	STOP	Pressing STOP during PLAY/STILL will stop PLAY and switch to LIVE screen. Pressing STOP button in REC Mode will stop REC. Pressing STOP button in Simultaneous Record and Playback Mode will stop PLAY, and pressing it again will stop REC.	
11	REC(LED)	Pressing REC button will illuminate LED that is at the top of REC button and start REC. REC (●) Marker will be displayed at the left top of the screen during REC	
12	REC LOCK (LED)	Pressing REC LOCK button will illuminate LED that is at the top of REC LOCK button. Pressing STOP button will not cancel REC at this time. Pressing REC LOCK button again will turn off REC LOCK LED and cancel REC LOCK.	
13	MULTI SCREEN	The screen displays 8 split screens after initial booting. LIVE/PB is also 8 split screen at the initial stage. Pressing the key will cycle between QUAD A, QUAD B, and 8 Split.	
14	SEARCH	Search video/audio signals recorded in HDD by inputting date/time they were recorded, or by selecting EVENT through RECORD, ALARM EVENT LIST. You may also view POWER EVENT LIST and LOSS EVENT LIST.	

NO	KEY	FEATURE	Note
15	SEQUENCE	Pressing SEQUENCE button in Single Screen will switch and show screen of channel that currently has video input. Pressing the same button In QUAD Screen will switch and show QUAD-A/QUAD-B Screen.	Pressing the Sequence button while in PIP mode will switch to the PIP source.
16	LIVE/PB /TRIPLEX	Video being displayed is shown on 16 sub-screens. PB sub-screens are shown in upper screen, LIVE sub-screens are shown in the lower screen at the same time. Pressing the button once more will switch to LIVE MODE, and pressing yet again will switch to PB MODE.	
17	Navigation Key (Up, Down, Left, Right, ENTER)	Up, Down, Left, Right, and ENTER key.	
18	USB JACK	A USB 2.0 that can back up the video/audio signals currently recorded in HDD by using external memory stick through a USB cable.	
19	POWER	Turns the power on and off	

3-2) Introduction to the Remote Controller



Memo



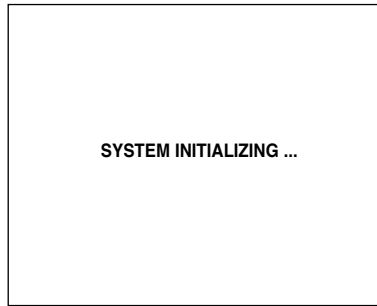
■ Chapter 4

Basic Use

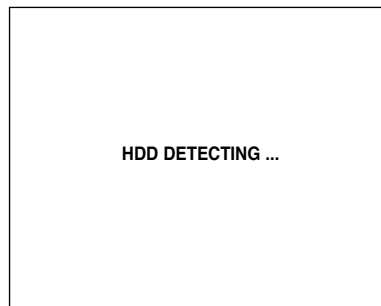
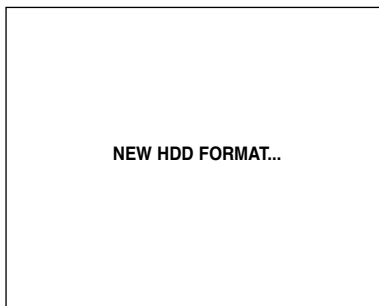
Chapter 4 : Basic Use

4-1) Power On

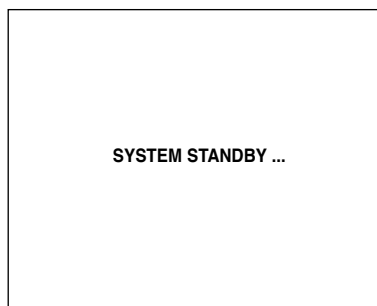
LED turns on and the system boots displaying the following screen when turning the power switch on at the right of front panel.



If a new HDD is detected, the system assigns a new section and starts a format.



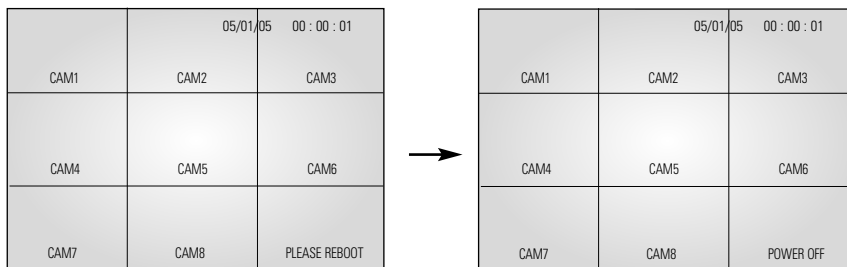
"SYSTEM STANDBY..." is displayed.



If the system does not detect a HDD (Hard Drive), the following message is displayed.

●	05/01/05	00 : 00 : 01
CAM1	CAM2	CAM3
CAM4	CAM5	CAM6
CAM7	CAM8	NO HDD

When detecting the HDD, a message is output as follows.



- "HDD DETECT" , "POWER OFF" are flickering at the bottom of screen.
- Press the MENU KEY in the "NO HDD" mode and "PLEASE CHECK HDD" is displayed.

4-2) Recognition of Input video signal

If there is no video signal when turning the system on, the black screen appears with an "L" indicator, which is an abbreviation of "LOSS" at the side of title(CAM1...CAM2) as follows."

"L" is disappears as soon as the video signal is connected. "Video loss event" is indicated in the "Loss event menu" in search mode.

●	05/01/05	00 : 00 : 01
L CAM1	CAM2	CAM3
CAM4	CAM5	CAM6
CAM7	CAM8	

4-3) Basic screen

Full screen

All of marks and conditions displayed in the screen are as follows.

● TU	▶	05/01/05	00:00:01
CAM1	CAM2	A	CAM3
L CAM4	CAM5	M	CAM6
CAM7	CAM8		

05/01/05 00:00:01	When in "LIVE" mode, it shows the present date and time set in the system. When in "PLAYBACK" mode, it means the recorded date and time of data.
●	Indicates the recording mode of system.
A	Is displayed when the system is in the alarm recording mode.
	Prevents the cancellation of REC.
L	Indicates "VIDEO LOSS".
M	Is displayed when the system is in the motion recording mode.
▶ PLAY	Indicates normal speed playback.
	Indicates pause.
◀ 1	Indicates X 1 reverse playback.
◀ 2	Indicates X 2 reverse playback.
◀ 5	Indicates X 5 reverse playback.
◀ 20	Indicates X 20 reverse playback.
◀ 1/5	Indicates X 1/5 reverse.
▶ 2	Indicates X 2 forward playback.
▶ 5	Indicates X 5 forward playback.
▶ 20	Indicates X 20 forward playback.
▶ 1/5	Indicates X 1/5 forward (slow-motion).
U	Displays USB connection status.
T	Displays when the timer record is set.

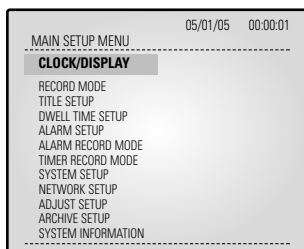


■ Chapter 5

Setup Menu

Chapter 5: Setting each item function in the SETUP MENU

Pressing the FRONT PANEL MENU button allows users to enter the SETUP MENU and see the following OSD menu box. Setting method of each SETUP MENU function and operation is as follows.



Menu Configuration

1. **CLOCK/DISPLAY**
 - Date, Time, and Display item setup
2. **RECORD MODE**
 - Recording-related item setup
3. **TITLE SETUP**
 - Channel title setup
4. **DWELL TIME SETUP**
 - Screen Time by channel during SEQUENCE activation setup
5. **ALARM SETUP**
 - Alarm channel setup and alarm-related item setup
6. **ALARM RECORD MODE**
 - Recording item and motion detection item during alarm setup
7. **TIMER RECORD MODE**
 - Reserved recording schedule setup
8. **SYSTEM SETUP**
 - System initialization and password setup
9. **NETWORK SETUP**
 - Network-related item setup
10. **ADJUST SETUP**
 - Screen color and brightness setup
11. **ARCHIVE SETUP**
 - Data Archive menu setup
12. **SYSTEM INFORMATION**
 - HDD capacity and System S/W Version display

5-1) CLOCK/DISPLAY SETUP

The initial setup status of Time and Screen/Display setup menu is shown below.

CLOCK/DISPLAY SETUP	
DATE TYPE	MM / DD / YY
DATE	05/07/07
TIME [HH : MM : SS]	12 : 30 : 00
DATE / TIME	ON
STATUS	ON
BORDER	ON
BORDER COLOR	GRAY
PIP POSITION	B-RIGHT

1. DATE TYPE

- Three date display types are available and User may select a desired type.
[YY/MM/DD, MM/DD/YY, DD/MM/YY]
- Change date type using ▼, ▲, ◀, ▶ key. Then click key.

2. DATE

- You may set up current date.
- Change date (year/month/date) using ▼, ▲, ◀, ▶ key. Then click key.

3. TIME

- You may set up current time.
- Change time (hour, minute, second) using ▼, ▲, ◀, ▶ key. Then click key.

4. DATE/TIME

- To display date and time to the default screen, you may select ON from ON/OFF to display them, or OFF if you don't want them to be displayed. [ON/OFF]
- You may set ON/OFF using ▼, ▲, ◀, ▶ key. Then change it using key

5. STATUS

- When recording, locking the system, and playing recorded video, you may set ON/OFF to ON to show system status such as playback information. Set to OFF if you don't want the information to be displayed.
[ON/OFF]
- You may select ON/OFF using ▼, ▲, ◀, ▶ key. Then change it using key.

6. BORDER

- Show or hide screen border. Select ON or OFF to show or not to show screen border.
[ON/OFF]

7. BORDER COLOR

- Split screen's border can be set in three colors.
[GRAY/WHITE/BLACK]
- Select ON/OFF or Color (GRAY, WHITE, BLACK) using ▼, ▲, ◀, ▶ key. Use key to change selection.

8. PIP POSITION

- Set Sub-screen location.
[B-RIGHT/B-LEFT/T-RIGHT/T-LEFT]
- Select PIP (B-LEFT, B-RIGHT, T-LEFT, T-RIGHT) location using ▼, ▲, ◀, ▶ key.
Use key to change selection.

5-2) RECORD MODE

RECORD MODE	
RECORD TYPE	OFF
PICTURE QUALITY	Normal
PICTURE RATE	60 IPS
DISK END MODE	STOP
DISK END ALARM TONE	ON
RECORD TIME MARK	ON
RECORD TITLE MARK	ON

1. RECORD TYPE

- Select channel to simultaneously record video and audio.
- [ALL/CH1/CH2/CH3/CH4/CH5/CH6/CH7/CH8]
- Set the channel on which audio is to be recorded or select ON/OFF using ▼, ▲, ◀, ▶ key.
Use key to change selection.
- Selected channel will be shown as S on screen.
- Upon selecting ALL in the menu, although you choose SINGLE CH, if the signal comes out to MULTI CH, “S” marker is displayed on the screen.
- In the SINGLE CH mode, when you record the signal and playback what is recorded on the HDD, “CHANGE MODE” is displayed and playback SINGLE CH only.
Also, when you will change mode to “MULTI CH” while the SINGLE CH is playback “1CH PB MODE” marker on the screen is displayed and you can’t change to MULTI CH.
Press the STOP KEY to change to MULTI CH.

2. PICTURE QUALITY

- Quality of the video to be recorded is defined in three stages. HIGH means quality of the video to be recorded is the highest, then NORMAL, then LOW.
[NORMAL/HIGH/LOW]
- Select video quality using ▼, ▲, ◀, ▶ key. Use key to change it.

3. PICTURE RATE

- Set numbers of fields to be recorded.
- Maximum number is 60 IPS.
[1/2.5/5/7.5/10/15/30/60 IPS]
- Select page number per second using ▼, ▲, ◀, ▶ key. Use key to change it.

INTERVAL	IPS(1ch)	IPS(8ch total)
4	7.5	60
8	3.75	30
16	1.875	15
24	1.25	10
32	0.9375	7.5
48	0.625	5
96	0.3125	2.5
240	0.125	1

※ When CH1 is recorded, the page number per second is 30 IPS per CH regardless of picture rate.

4. DISK END MODE

- Setting to STOP will stop recording when HDD becomes full during recording.
- Setting to CONTINUE will overwrite previously recorded data with the one currently being recorded. The oldest data saved in HDD will get overwritten first.
[CONTINUE/STOP]
- Use ▼, ▲, ◀, ▶, key to change the setup.

5. DISK END ALARM TONE (Notice Mode when HDD is full)

- When DISK END MODE is set to STOP, setting this to ON will make ALARM TONE ring when HDD is full during recording. If it is set to OFF, ALARM TONE will not ring. This feature won't be activated unless DISK END MODE is set to STOP.
[ON/OFF]
- Use ▼, ▲, ◀, ▶, key to change the setup.

6. RECORD TIME MARK

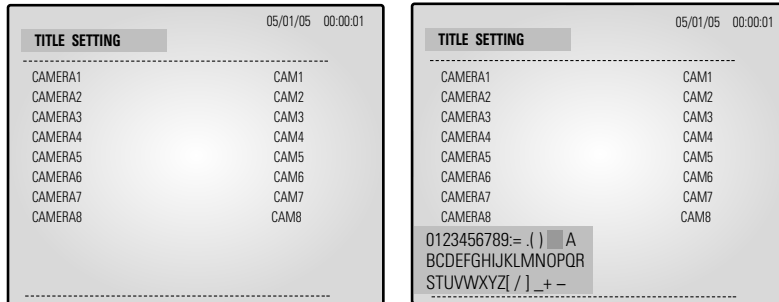
- Setting to ON will show the time when the recording is done during playback, Setting to OFF will not show it.
[ON/OFF]
- Use ▼, ▲, ◀, ▶, key to change ON or OFF.

7. RECORD TITLE MARK

- Setting to ON will show the title when the recording is done during playback, Setting to OFF will not show it.
[ON/OFF]
- Use ▼, ▲, ◀, ▶, key to make change.

5-3) TITLE SETUP

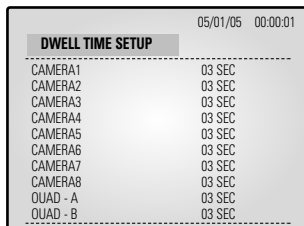
- **Function:** Set the desired title of each camera.
- **Setting method:** Move to #5. TITLE MENU by using ▲/▼ KEY in the SETUP MENU, and press the ENTER key SWITCH to display the OSD as shown in the figure below.
(The figure shows the initial setting status.)



Move to a target camera channel by using ▲/▼ KEY, then press the ENTER KEY to display a cursor at the space of the first character in the camera title. Move the cursor to a target character in the OSD box lower part by using ▲/▼ KEY, then press the ENTER KEY to set the character. The cursor automatically moves to the next space after one character is set. Set the title of camera by repeating the same method.
(Only eight characters are available for a camera title.)

5-4) DWELL TIME SETUP

The initial setup status of DWELL TIME SETUP menu is shown below.



1. DWELL TIME SETUP

- Pressing SEQUENCE button in Single Screen will bring up the SEQUENCE MODE. You may set the time display for each channel. If you set zero (0) seconds as the DWELL TIME for a particular channel, the set channel will be skipped and next channel will be shown. You may set time in the QUAD-A, QUAD-B screens.

[0SEC, 1SEC, 2SEC, 3SEC..... ~ 60SEC]

- Use ▼, ▲, ◀, ▶, [↵] key to make changes.

5-5) ALARM SETUP

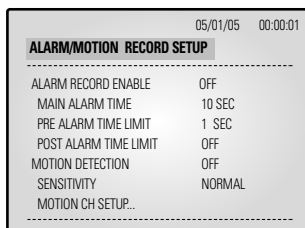
- **Function:** Allows users to set the ALARM MODE for each camera.
- **Setting method:** Move to #6. ALARM MENU by using ▲/▼ KEY in the SETUP MENU, and press the ENTER SWITCH to display the OSD as shown in the figure below. (The figure shows the initial setting status.)

ALARM	SETTING	05/01/05	00:00:01
CAM1		ON	
CAM2		ON	
CAM3		ON	
CAM4		ON	
CAM5		ON	
CAM6		ON	
CAM7		ON	
CAM8		ON	
HOLD TIME		05SEC	
ALARM ON TIME		00:00	
ALARM OFF TIME		00:00	
ALARM TONE		ON	

- (1) CAM1 to CAM8 item sets whether the alarm sensor connected to the camera is used or not.
(ON: Alarm function setting, OFF: Alarm function canceling)
 - (2) HOLD TIME item sets time to freeze alarm operation when alarm occurs.
(HOLD TIME to be set: 05SEC ~ 1MIN ~ 30MIN)
- * Note : If you want to carry alarm operation, you must pre-set ALARM ON/OFF TIME item in monitor before CAMERA ALARM is set to ON. If you do not pre-set ALARM ON/OFF TIME item in advance, alarm operation is not carried though CAMERA ALARM is set to ON.
- (3) ALARM TONE sets whether or not alarm tone (high-pitched tone)sounds when an ALARM or VIDEO LOSS occurs.
(ON: ALARM TONE operation, OFF: Cancel)

5-6) ALARM RECORD MODE

The initial setup status of ALARM/MOTION RECORD SETUP menu is shown below.



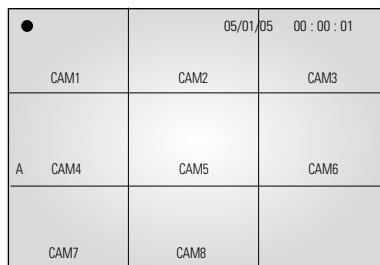
1. ALARM RECORD ENABLE

If you want to start recording when Alarm rings, then select ON. If you do not want to start recording when Alarm rings, then select OFF. If you set ALARM RECORD ENABLE to ON and exit the menu, system starts recording whenever Alarm is activated.

The following screen shows that ALARM recording is in progress when ALARM is activated.

It shows the ALARM for Channel 4 is activated with an "A" mark.

[ON/OFF]



2. MAIN ALARM TIME

- Set the time to record video and audio when motion is detected or alarm is activated.

[OFF ,10SEC ,20SEC ,30SEC ,1MIN ,2MIN ,3MIN ,4MIN ,5MIN ,AUTO]

- Use ▼, ▲, ◀, ▶, [↵] key to make changes.

3. PRE ALARM TIME LIMIT

- PRE ALARM recording is a feature that recognizes what kind of conditions were present immediately before motion was detected.

PRE ALARM TIME LIMIT can be set to record 1-5 seconds of video/audio right before motion detection or an ALARM occurrence. The System memory always saves up to 5 seconds of video and audio data. When motion is detected or an ALARM occurs, ALARM recording starts and PRE-ALARM data is simultaneously recorded from the System memory to HDD up to the time length set in PRE ALARM TIME LIMIT.

[OFF ,1SEC, 2SEC, 3SEC, 4SEC, 5SEC]

- Use ▼, ▲, ◀, ▶, [↵] key to make changes.

4. POST ALARM TIME LIMIT

- Recording is performed up to the time set in MAIN ALARM TIME. Then data is further recorded up to the time set in POST ALARM TIME LIMIT.
[OFF ,10SEC ,20SEC ,30SEC ,1MIN ,2MIN ,3MIN ,4MIN ,5MIN]
- Use ▼, ▲, ◀, ▶, [↵] key to make changes.

5. MOTION DETECTION

- When MOTION DETECTION is set to ON, recording will start whenever a motion in the input video is detected.
[ON/OFF]
- Use ▼, ▲, ◀, ▶, [↵] key to make changes.

6. SENSITIVITY

- MOTION DETECTION SENSITIVITY can be set when user set the MOTION DETECTION. There are three stages -- HIGH/NORMAL/LOW.
[HIGH/NORMAL/LOW]
- Use ▼, ▲, ◀, ▶, [↵] key to make changes.

7. MOTION CH SETUP

- Set the channel that you want to detect MOTION.

05/01/05 00:00:01	
MOTION CH SETUP	
CAMERA1	OFF
CAMERA2	OFF
CAMERA3	OFF
CAMERA4	OFF
CAMERA5	OFF
CAMERA6	OFF
CAMERA7	OFF
CAMERA8	OFF

MOTION AREA :	ON[FULL] OFF[EMPTY]

- MOTION can be detected only on channels that are set to ON.
The following screen shows that MOTION recording is in progress when MOTION happens. It shows MOTION happens on channels 1 and 2. An “M” mark is displayed next to each channel title to show that MOTION happens.

[ON/OFF]

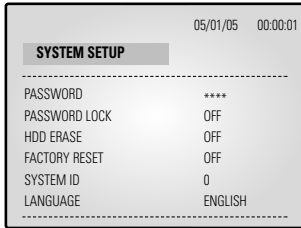
●	05/01/05 00:00:01	
CAM1	CAM2	CAM3
M CAM4	CAM5	CAM6
CAM7	CAM8	

5-7) TIMER RECORD MODE

TIMER RECORD MODE				
05/01/05 00:00:01				
TIMER	DAY	START	END	FIELD RATE
OFF	---	--:--	--:--	--:--
OFF	---	--:--	--:--	--:--
OFF	---	--:--	--:--	--:--
OFF	---	--:--	--:--	--:--
OFF	---	--:--	--:--	--:--
OFF	---	--:--	--:--	--:--
OFF	---	--:--	--:--	--:--
OFF	---	--:--	--:--	--:--
OFF	---	--:--	--:--	--:--
OFF	---	--:--	--:--	--:--

- **TIMER** : Set this option to ON to setup Timer Recording [ON/OFF].
- **DAY** : Select the day of a week for the timer recording [MON, TUE, WED, THU, FRI, SAT, DAILY, SUN].
- **START & END** : Set the starting and ending time for the timer recording [00:00 ~ 23:59].
- **FIELD RATE** : Set the number of fields to be recorded per second [1, 2.5, 5, 7.5, 10, 15, 30, 60].
- Use ▼, ▲, ◀, ▶ key to make change.

5-8) SYSTEM SETUP



1. PASSWORD INPUT

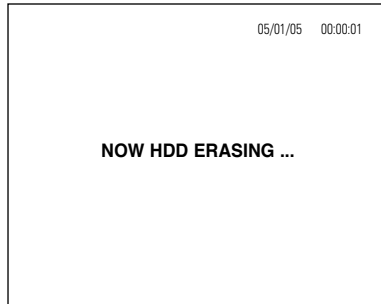
- You may set a PASSWORD to prevent others from setting MENU screen.
(You may choose 4 digits from 1 to 8 to set a desired PASSWORD.)

2. PASSWORD LOCK

- If PASSWORD LOCK is set after you assigned a PASSWORD, you must enter PASSWORD each time you enter to MENU. [ON/OFF]
- Use ▼, ▲, ◀, ▶, ↵ key to make changes.
- Use a 1 to 8 digits alphanumeric key to enter PASSWORD and press the OK key using the ▼, ▲ key.
- If your PASSWORD is mismatched 3 times or more the display is moved to MULTI screen.
- If PASSWORD is mismatched, PASSWORD FAIL is displayed and if you enter 4digit more password, PASSWORD FAIL is displayed.

3. HDD ERASE

- When you exit MENU after setting HDD ERASE to ON, the following message (“NOW HDD ERASING...”) appears and the existing HDD DATA will be deleted.
- Use ▼, ▲, ◀, ▶, ↵ key to make changes.



● External HDD

- The compatible HDDs are as follows.
- The maximum storage capacity of available external HDD is 250Gb. It is operated most safely in the HDD of 160gb.

Maker	RPM	Capacity	Interface	Buffer	Series Name	Model No	Remark
Samsung	5,400	160GB	Ultra ATA-133	2MB	SpinPoint V80	SV1604N	
Maxtor	7,200	160GB	Ultra ATA-133	2MB	DiamondMax Plus 9	6Y160LO	
	5,400	250GB			MaxLine II	5A250JO	
Western Digital	7,200	160GB	ELDE	2MB	WD Prpte 'ge'	WD1600LB	

Note

Deleted data cannot be recovered. Please double check and make sure you want to delete data.

4. FACTORY RESET

- When FACTORY RESET is performed, the setup value will factory default setting when initialization starts.

1. Select SYSTEM SETUP from MENU screen.
2. From the SYSTEM SETUP submenu, set FACTORY RESET to ON.
3. When you exit MENU, the phrase "FACTORY RESET" appears on the monitor and the initialization starts.

[ON/OFF]

- Use ▼, ▲, ◀, ▶, [↵] key to make changes.

5. SYSTEM ID

- Runs the remote control when the remote control ID and system ID settings are identical.
Does not run if they are different. [0-9]

- Use ▼, ▲, ◀, ▶, [↵] key to make changes.

6. LANGUAGE

- Show language type of SYSTEM screen.
(ENGLISH)

5-9) NETWORK SETUP

This section of the manual is intended for users who will install this security system in a network environment. If you have difficulty setting the network, we recommend contacting your network administrator.

- **Static**
- **DHCP**
- **DSL (PPPoE)**
 - **Function:** Allows users to select the STATIC (fixed) IP, DHCP, PPPoE of Setting.
 - **Setting method:** Move to #7, NETWORK SETUP MENU by using ▲/▼ KEY in the SETUP MENU, then press the ENTER SWITCH to display the OSD as shown in the figure below.

(The figure shows the initial setting status)

NETWORK SETTING	
05/01/05 00:00:01	

1. NETWORK ACCESS	STATIC...
2. HTTP PORT	00080
NETWORK STATUS	
IP_ADDR	192.168.1.200
GATEWAY	192.168.1.65
SUBNETMASK	255.255.255.0
DNS 1	168.126.63.001
DNS 2	168.126.63.002
MAC_ADDR	00:30:6f:ff:00:00

MOVE TO EACH item by using ▲/▼ KEY, and using ◀/▶ KEY to change the set value.

Static IP User

- Constituted by Static IP on the TCP/IP network

1) Move to 'STATIC...' by using ▲/▼ KEY at NETWORK ACCESS, then press ENTER SWITCH to set STATIC...

(STATIC : Select in case the network configuration of monitor is fixed IP (Public or Private IP))

05/01/05 00:00:01	
STATIC ACCESS	

IP ADDR	192.168.1.200
GATEWAY	192.168.1.65
SUBNETMASK	255.255.255.0
DNS 1	168.126.63.001
DNS 2	168.126.63.002

2) Move to IP ADDR / GATEWAY / SUBNETMASK by using ▲/▼ KEY .

3) Press ENTER SWITCH and type in IP ADDR / GATEWAY / SUBNETMASK respectively.

4) DNS 1 and DNS 2 will be automatically set to DNS as shown above.

Use ▲/▼ KEY to change it.

DHCP User

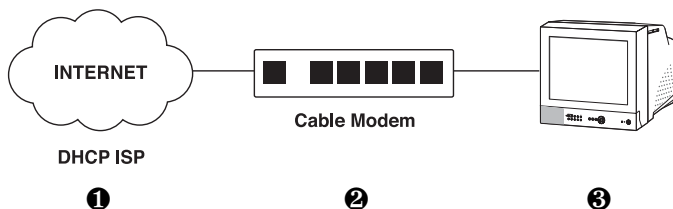
- Constituted by Dynamic IP on the cable/xDSL modem network

You can use the SMO-210DN products through the network using Dynamic IP on cable/xDSL modem. In this case, it should be connected with DDNS to support the Dynamic IP.

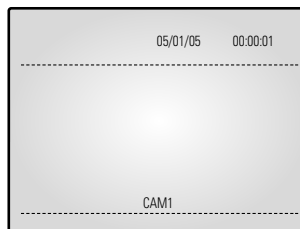
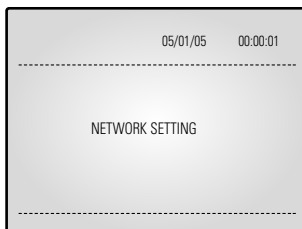
In case of a configuration using DHCP, as the connection to SMO-210DN is made using domain names (EX : <http://wff0000.websamsung.net>) that are automatically registered in our DDNS server, IP address, Subnet Mask and Gateway that are in the network tab of Admin Mode are not necessarily to be inputted.

The proper domain names of SMO-210DN are automatically registered to DDNS server installed in our company in case of modem connection. The default IP type is DHCP .

1) Connect as the figure below and turn on the power of the equipment in the order shown.



- 5) After setting, move to the main screen by using the MENU button.
- 6) Set values will be stored shown below. It takes 2 or 3 seconds.



- 7) Open your Internet Explorer web browser.

Using a Static (fixed) IP, You may also connect remotely by typing in the IP address of the SMO-210DN, Such as

<http://192.168.1.200>

*** Note : HTTP Port**

Set the port to be used when connecting to SMO-210DN in Internet Explorer and receive the necessary files for image transmission.

The port setting is used for various network configurations or a particular port etc.

CAUTION

A port number is reserved for TCP port and HTTP port setting.

Default values should not be changed.

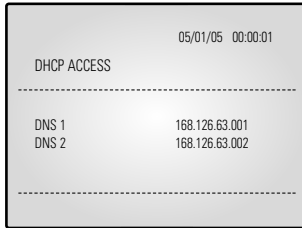
However, if the IP Router is used in a network environment, input proper values with reference to the IP Router manual.

If the SMO-210DN is using a Router, you may also connect remotely by typing In the WAN IP Address of the Router and the HTTP port assigned to the SMO-210DN.

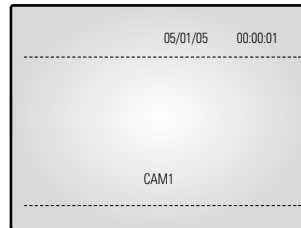
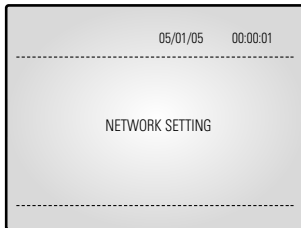
(here you must type in the port address even if it is the default “80”), such as

<http://192.168.1.200:80>

-
- 2) Move to 'DHCP...' by using ▲/▼ KEY in NETWORK ACCESS, then press ENTER SWITCH to set to DHCP.



- 3) DNS 1 and DNS 2 will be automatically set to DNS as shown above.
Use ◀/▶ KEY to change it.
- 4) After setting, move to the main screen by using the MENU button.
- 5) Set values will be stored as shown below. It takes 2 or 4 seconds.



- 6) You can view the video source of the SMO-210DN from a remote location PC.
- 7) Make sure the remote PC meets the minimum specification requirements described in Chapter 10. Product Features (Eng-10-6) and make sure that the PC is internet capable.

8) Open your Internet Explorer web browser, type in the following in the URL window and press Enter.

<http://wff0000.websamsung.net>

Where ff0000 is the MAC address of your SMO-210DN in this example.

If your SMO-210DN MAC address is ff0001, then type in ff0001 instead of ff0000

*** Note : MAC Address.**

Locate the MAC Address of the SMO-210DN (each SMO-210DN has its own unique MAC address)

It can be checked in “5-9) NETWORK SETUP” of SETUP MENU’.

It is the last 6 digits as shown below.

NETWORK SETTING	
1. NETWORK ACCESS	STATIC...
2. HTTP PORT	00080
NETWORK STATUS	
IP ADDR	192.168.1.200
GATEWAY	192.168.1.65
SUBNETMASK	255.255.255.0
DNS 1	168.126.63.001
DNS 2	168.126.63.002
MAC ADDR	00:30:6f:ff:00:00

CAUTION

If you change the HTTP port number 80 to 1025 then you must type as in address bar below.

The default port number is 80. You may need to change the port number if you cannot link to the security system from a remote location due to a firewall or other issues.

<http://wff0000.websamsung.net:1025>

At this time, you should add “w” in front of “mac address”.

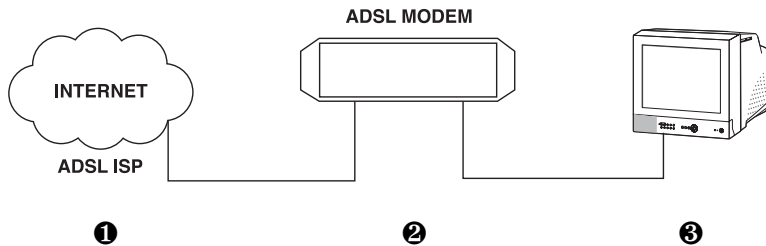
DSL User (PPPoE)

- Constituted by IP on PPPoE (DSL)

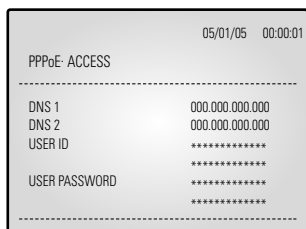
SMO-210DN products can be used on the network using IP through PPPoE (DSL).

In case of a configuration using PPPoE, SMO-210DN connection is made through the domain names (EX : http://wff0000.websamsung.net) that are automatically registered in Samsung's DDNS server. You do not need to enter IP address, Subnet Mask and Gateway in the network tab of Admin Mode.

- 1) Connect as in the figure below and turn on the power of each piece of equipment in the following order.



- 2) MOVE TO EACH item by using ▲/▼ key, and ◀/▶ KEYchange the set value.
- 3) Move to 'PPPoE...' by using NETWORK ACCESS.
Press ENTER SWITCH to set to PPPoE.



- 4) When accessing the PPPoE (DSL), type in the User Name and Password (and Confirm Password) given to you by the DSL Service Provider.

.....

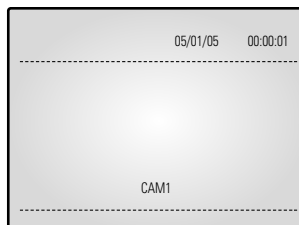
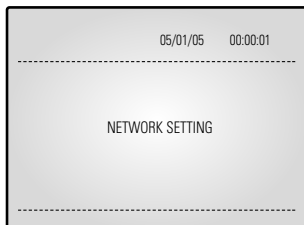
CAUTION

When using DSL (ISP-internet service provider) you must type correct User Name and Password to connect to SMO-210DN. If you type an incorrect User Name or Password, communication is impossible.

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ID and PASSWORD

- 5) USER ID and PWD (Password) are limited to 40 digits maximum. Only numerals, @symbol and small characters can be used.
Capital letters are not supported.
- 6) DNS 1 and DNS 2 will be automatically set to DNS as shown above.
- 7) Use ◀/▶ KEY to change it.
- 8) After setting, move to the main screen by using the MENU button.
- 9) Set values will be stored as shown below. It takes 2 or 3 seconds.



- 10) You can view the video source of the SMO-210DN from a remote location PC.
- 11) Make sure the remote PC meets the minimum specification requirements described in Chapter 10. Product Features (Eng-10-5), and make sure that the PC is internet capable and set up to able to browse the internet.
- 12) Open your Internet Explorer web browser, type in the following in the URL window and press ENTER.

<http://wff0000.websamsung.net>

For example, if your SMO-210DN MAC address is ff0001, then type in ff0001 instead of ff0000. W is a fixed letter that must be typed in. This will ensure connection to the monitor.

*** Note : MAC Address.**

Locate the MAC Address of the SMO-210DN (each SMO-210DN has its own unique MAC address)

It can be checked in “5-9) NETWORK SETUP” of SETUP MENU’.

It is the last 6 digits as shown below.

At this time, you should add “w” in front of “mac address”.

NETWORK SETTING		05/01/05	00:00:01

1. NETWORK ACCESS	STATIC...		
2. HTTP PORT	00080		
NETWORK STATUS			
IP ADDR	192.168.1.200		
GATEWAY	192.168.1.65		
SUBNETMASK	255.255.255.0		
DNS 1	168.126.63.001		
DNS 2	168.126.63.002		
MAC ADDR	00:30:6f:ff:00:00		

CAUTION

If you change the HTTP port number 80 to 1025 then must type like below in address bar.

<http://wff0000.websamsung.net:1025>

CAUTION

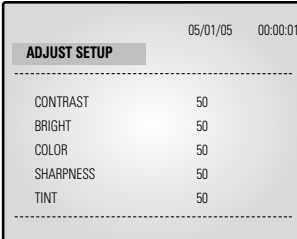
In cases where the PC's DNS server address is not set and the connection using domain name is not available, Please consult your network administrator to set DNS server address.

CAUTION

The connection to SMO-210DN is unavailable for about 2~5 minutes after powering on your DSL Modem. Since the connection is not available, as the IP is not received from DSL communications, please reboot by turning off the power of DSL Modem and SMO-210DN for more than 5 seconds, and then try to connect again.

5-10) ADJUST SETUP

- **Function:** Allows adjustment of the display status
- **Setting method:** Move to #1. ADJUST MENU by using ▲/▼ KEY and press the ENTER SWITCH to display the OSD as shown in the figure below. (The figure shows the initial setting status.)



ADJUST SETUP		05/01/05	00:00:01
CONTRAST	50		
BRIGHT	50		
COLOR	50		
SHARPNESS	50		
TINT	50		

Move to a target item by using ▲/▼ KEY.

Enter the item by pressing the ENTER SWITCH.

At this time, set a target value by using ◀/▶ KEY.

You can move to another item by using ▲/▼ KEY after setting the target value.

- (1) **CONTRAST** : Adjusts the contrast of the picture.
- (2) **BRIGHT** : Adjusts screen luminance.
- (3) **COLOR** : Adjusts color intensity.
- (4) **TINT** : Works with the color adjustment to create the correct color imaging.
- (5) **SHARPNESS** : Adjusts the detail of the image.

5-11) ARCHIVE SETUP

The initial setup status of ARCHIVE SETUP menu is shown below.

ARCHIVE SETUP		05/01/05	00:00:01

DATE (YY / MM / DD)	05 / 01 / 05		
TIME (HH : MM : SS)	00 : 00 : 01		
ARCHIVE CH	1CH		
ARCHIVE UNIT	1MB		
ARCHIVE ERASE	OFF		
	[ARCHIVE START]		
	[8MB / 249MB]		

USAGE : USB MEMORY STICK			

1. DATE (YY/MM/DD)

- Set the date that you want to save data to USB.
- Use ▼, ▲, ◀, ▶, key to make changes.

2. TIME (HH:MM:SS)

- Select a time you would like to back up your data from.
- Use ▼, ▲, ◀, ▶, key to make changes.

3. ARCHIVE CH

- Set the channel that you want to save data to USB.
[CH1, CH2, CH3, CH4, CH5, CH6, CH7, CH8]
- Use ▼, ▲, ◀, ▶, key to make changes.

4. ARCHIVE UNIT

- Set the data capacity unit that you want to save data to USB.
If you select 1MB, data will be stored up to 1MB from the selected date and time of the selected channel.
[1MB, 4MB, 8MB]
- Use ▼, ▲, ◀, ▶, key to make changes.

5. [ARCHIVE START]

- If press ENTER KEY after moving cursor to "[ARCHIVE START]", DATA ARCHIVE begins.

6. [8MB/249MB]

- If user uses 256 MB USB MEMORY STICK and stores 8 MB of DATA to USB MEMORY STICK,
"[8MB/249MB]" is displayed.
"8MB" is used capacity and "249MB" is total available USB capacity.

- External USB

-The compatible USBs are as follows.

Maker	Model No	Remark
P&C	FDISKV2	
IOCELL	Active Drive	
	CellDisk	
Stormblue	MICRO X	
ALTech	AnyDrive	
Bayon	Extreme USB Flashdisk	
SanDisk	cruzer mini	
PNY	Attache	
GeekSquad	GeekSquad	
Lexar	Jump Drive	

.....

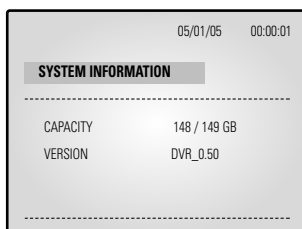
CAUTION

The only supported USB DEVICE is a USB MEMORY STICK.

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5-12) SYSTEM INFORMATION

This initial setup status of SYSTEM INFORMATION menu is shown below.



1. CAPACITY

- Shows HDD capacity of the system. Remaining capacity/Total HDD capacity

2. VERSION

- Shows system version.



■ Chapter 6

Recording

Chapter 6 : Recording

6-1) REC (Normal)

Press the (**REC**) button to record the live screen. The LED on the record button turns on, the ● mark is displayed in the screen, and HDD LED flickers to indicate the HDD recording. All eight sources will be recorded simultaneously.

●	05/01/05	00 : 00 : 01
CAM1	CAM2	CAM3
CAM4	CAM5	CAM6
CAM7	CAM8	

.....

Note

- If the user is in the menu, the recording does not start by pressing the (**REC**) button .
To start the recording, press the (**REC**) button after the user is out from the menu.
-
-

CAUTION

If the input video signal is disconnected during the recording, the recording is stopped. The system resumes the recording as soon as the input video signal is connected normally. The system does not start the recording when no video signal is received.

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6-2) Record Stop

Click the stop button to stop the data being recorded.


- REC mark disappears and the recording is stopped.

	05/01/05	00 : 00 : 01
CAM1	CAM2	CAM3
CAM4	CAM5	CAM6
CAM7	CAM8	

Note

If the user user presses the menu button during the recording, the recording is continued and the menu screen is not displayed.

6-3) Record Lock

● 	05/01/05	00 : 00 : 01
CAM1	CAM2	CAM3
CAM4	CAM5	CAM6
CAM7	CAM8	

1. Record Lock

To set "LOCK" during the recording, press the "REC LOCK" button. REC LOCK LED turns on when pressing the "REC LOCK" button. The recording does not stop when "REC LOCK" is engaged, even if the Stop button is pressed.

2. Cancel the Record Lock

Press the "REC LOCK" button again to cancel the record lock.

Note

The REC/REC LOCK button does not save the last setup when the system reboots.

Memo



■ Chapter 7

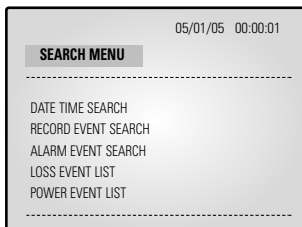
Search Menu

Chapter 7 :SEARCH MENU

7-1) SEARCH MENU

To search the data recorded, press the (**SEARCH**) button in the LIVE mode.

The following menu is displayed.



- **DATE TIME SEARCH** : Searches data recorded through the date and time.
- **RECORD EVENT SEARCH** : Searches all of data recorded by the normal recording.
- **ALARM EVENT SEARCH** : Searches data recorded by the occurrence of alarm/motion.
- **LOSS EVENT LIST** : Displays the channel and time information when the video loss occurs.
- **POWER EVENT LIST** : Displays the time information when the power goes on/off.

CAUTION

The present date and time is displayed on the date and time item in the Date/Time search menu.

Input the date and time to search the recorded data.

The list is not displayed in the event search menu because there is no data in the HDD at the time of shipment.

7-2) DATE TIME SEARCH

05/01/05 00:00:01

DATE TIME SEARCH

DATE [YY/MM/DD] 05/01/05
TIME [HH:MM:SS] 00:00:00

SEARCH START

1. DATE[YY/MM/DD]

- Set a date to search[YY,MM,DD].
- Use the ▼, ▲, ◀, ▶, key to change the date.

2. TIME[HH:MM:SS]

- Set a time to search.
- Use the ▼, ▲, ◀, ▶, key to change the time.

3. SEARCH START

- Input [YY/MM/DD] and [HH:MM:SS] to search and press the ENTER () button.
And then, the related data is searched.
- Use the ▼, ▲, ◀, ▶, key to change.

7-3) RECORD EVENT SEARCH

After pressing the search button, select the record event search menu.
The following screen is displayed.

05/01/05 00:00:01

RECORD EVENT SEARCH

ID	EVENT	DATE	TIME
001	RECORD START	05/01/05	02:23:28
002	RECORD START	05/01/05	01:30:00
003	RECORD START	05/01/05	00:49:31

If you press the REC button among the data recorded in the HDD, the data list recorded is displayed.

Select the record event list with the UP/DOWN/LEFT/RIGHT(▼, ▲, ◀, ▶) button. Press the ENTER button to search it.

7-4) ALARM EVENT SEARCH

After pressing the search button, select the ALARM EVENT SEARCH. The following is displayed.

ALARM EVENT SEARCH			
ID	EVENT	DATE	TIME
001	ALARM START	01/01/05	12:23:55
002	MOTON START	01/01/05	10:22:13

- The data recorded on the HDD due to alarm occurrence or motion is displayed by the recording time.

Select the ALARM/MOTION EVENT LIST by use of the UP/DOWN/LEFT/RIGHT (▼, ▲, ◀, ▶) button.

And press the  button to search it.

7-5) LOSS EVENT LIST

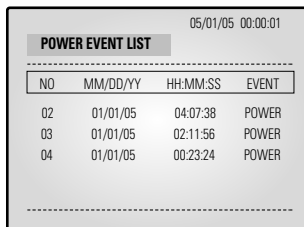
Displays the channel, date and time being occurred VIDEO LOSS.

LOSS EVENT LIST			
NO	CH	MM/DD/YY	HH:MM:SS
01	08	05/01/05	03:07:38
02	03	05/01/05	01:11:56

It is possible to check the list of next page by use of UP/DOWN/LEFT/RIGHT (▼, ▲, ◀, ▶) button.

7-6) POWER EVENT LIST

Displays the date and time information with the list when the power is turned on/off.



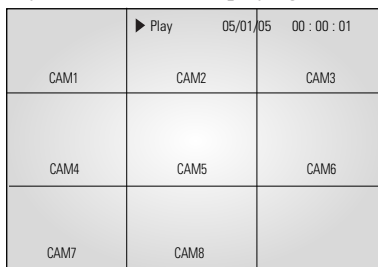
POWER EVENT LIST			
05/01/05 00:00:01			
NO	MM/DD/YY	HH:MM:SS	EVENT
02	01/01/05	04:07:38	POWER
03	01/01/05	02:11:56	POWER
04	01/01/05	00:23:24	POWER

It is possible to check the list of next page by use of UP/DOWN/LEFT/RIGHT(▼, ▲, ◀, ▶) button.

7-7) BASIC PLAYBACK

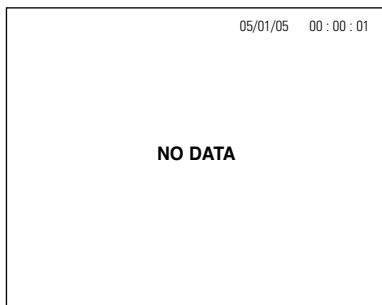
Press the PLAY/STILL button to play the data recorded in the HDD immediately.

Playback starts with displaying the following screen.



▶ Play 05/01/05 00:00:01		
CAM1	CAM2	CAM3
CAM4	CAM5	CAM6
CAM7	CAM8	

If there is no data recorded, "NO DATA" message is displayed.



Note

- If the user is in the menu, the playback does not start even if the PLAY button is pressed. Exit from the menu first to start the playback.
 - Press the stop button to stop the playback. If the PLAY/STILL button is pressed again, the system starts the playback from the last stop.
 - If the final data of HDD finishes playing back., the first data of HDD is played again.
-

	▶ Play	05/01/05	00 : 00 : 01
CAM1	CAM2	CAM3	
CAM4	CAM5	CAM6	
CAM7	CAM8		

If the PLAY/STILL button is pressed during the playback, the following screen is displayed and the screen is paused.

	⏸	05/01/05	00 : 00 : 01
CAM1	CAM2	CAM3	
CAM4	CAM5	CAM6	
CAM7	CAM8		

- If the LEFT or RIGHT button is pressed during the PLAYBACK mode, X2 playback is performed in forward or reverse.
- If the LEFT or RIGHT button is pressed repeatedly during the STILL mode, still playback is performed backwards or forwards.
- Press the RIGHT button to increase the forward playback speed, and press the LEFT button to increase reverse during X2 playback.

	▶▶ 2	05/01/05	00 : 00 : 01
CAM1	CAM2	CAM3	
CAM4	CAM5	CAM6	
CAM7	CAM8		

	◀◀ 2	05/01/05	00 : 00 : 01
CAM1	CAM2	CAM3	
CAM4	CAM5	CAM6	
CAM7	CAM8		

.....

Note

The menu screen is not displayed even if the user presses the menu button during playback.
 Change to the LIVE mode to display the menu screen.

.....

Memo



■ Chapter 8

Remote Viewer Connection

Chapter 8 : REMOTE VIEWER CONNECTION

8-1) SMO-210DN basic settings

1) Open your Internet Explorer web browser, Type in the Monitor's IP address or MAC address in the URL window and press ENTER. (for example : http://168.219.13.232 , http://wff0000.websamsung.net)

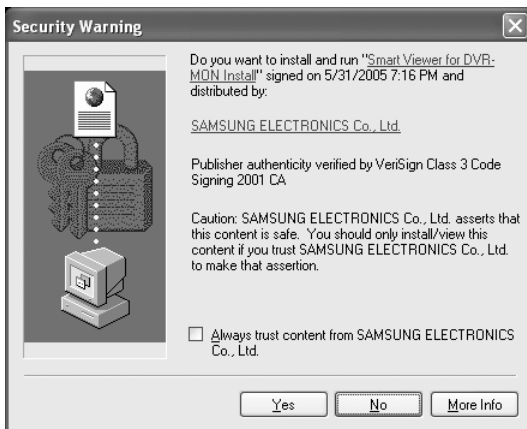
* **Note :** Where ff0000 is the MAC address of your SMO-210DN in this example.
If your SMO-210DN MAC address is ff0001, then type in ff0001 instead of ff0000.
Please refer to no. 8) in the 5-16 page.

2) When you choose the Admin menu, it asks you for the Admin ID and password.

3) Type in root / root. On delivery, they are "root" (administrator's ID) / "root" (administrator's Password). The password can then be changed in Admin Menu.



4) Click YES . This will automatically download the necessary Active X Controls to operate the Remote Viewer. It takes about 20 seconds at the first connection.



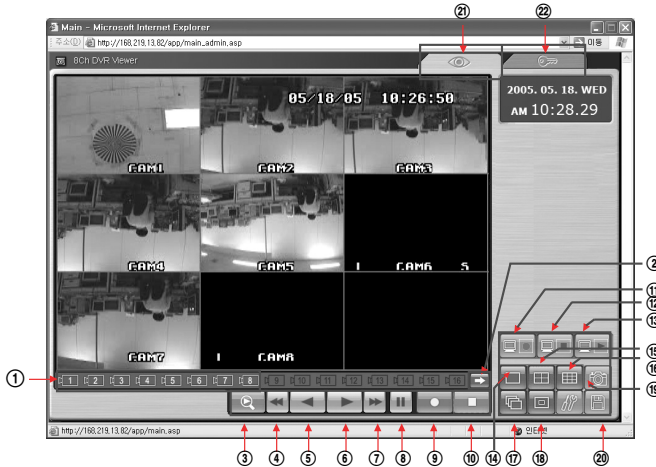
5) When you enter properly, a window appears as shown below.
























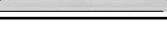
Note: If the MPEG 4 codec is improperly installed, you will not see video images. To see video, click on "8Ch DVR Viewer" in the upper left portion of the screen, then a window will appear prompting you to install MPEG 4.

8-2) "LIVE" MENU

- CAMERA SELECT



Multi screen mode of monitor if QUAD A.

	KEY Type	Function
1		Choose a camera by selecting channel “Ch 1 ~ Ch 8” 8 Cameras are supplied.
2		NEXT CHANNEL
3		DVR SEARCH
4		DVR REWIND
5		DVR BACK
6		DVR PLAY
7		DVR FAST FORWARD
8		DVR STILL
9		DVR RECORD
10		DVR STOP
11		PC RECORD
12		PC STOP
13		PC PLAY
14		1 CHANNEL SELECT
15		4 CHANNEL SELECT
16		9 CHANNEL SELECT
17		SEQUENCE MODE
18		IMAGE RESIZE (ch1 Default selected) 320 X 240 Size 720 X 480 Size
19		CAPTURE
20		SAVE PATH
21		ADMIN MODE
22		LIVE MODE

- SINGLE SCREEN DISPLAY

If users want to see the camera image at full mode or smaller, select a target camera with NEXT channel or CHANNEL SELECT keys.

After camera selection, camera image can be displayed at full screen.

*   AT SINGLE DISPLAY

Original Size Large Size

- QUAD MODE DISPLAY

A user can select the QUAD mode.

QUAD- A -> QUAD - B -> QUAD - A -> ...

•  QUAD MODE DISPLAY



QUAD - A : QUAD DISPLAY MODE From Camera1 to Camera4

QUAD - B : QUAD DISPLAY MODE From Camera5 to Camera8

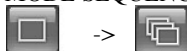
- Auto SEQUENCE DISPLAY MODE

Press the sequence key in the single or QUAD mode to display the screen in sequence.

If the DWELL TIME SETTING of SETUP MENU is set to 3 seconds and the SEQUENCE KEY is pressed at this time, the operation will be carried out as follows.

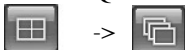
(Channels with no signal will be skipped while single screen is auto-switching)

* SINGLE MODE SEQUENCE DISPLAY



Press SEQUENCE KEY When SINGLE MODE (camera select key) is displayed at full screen.

* QUAD MODE SEQUENCE DISPLAY



Press SEQUENCE KEY When QUAD - A (QUAD - B) MODE is displayed.

- SAVE MODE



Press the SAVE PATH KEY to change the name of the DIRECTORY.

- CAPTURE MODE



Press the CAPTURE KEY to store each picture in the form of FMPI (still image file).

- Motion Picture Recording and Playback




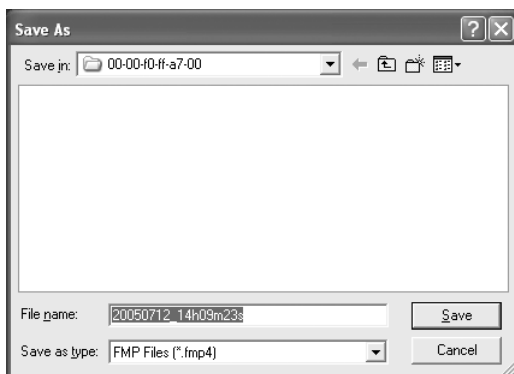
1. Recording

When saving with Viewer, the file and folder are created automatically.

If the Mac address of product is "00-30-6F-FF-00", the created file and folder are as follows.

"C:\Program Files\Samsung \SMO-210DN\00-30-6F-FF-00"

A user can change the name of a file or folder by using the save path key () of the Viewer.

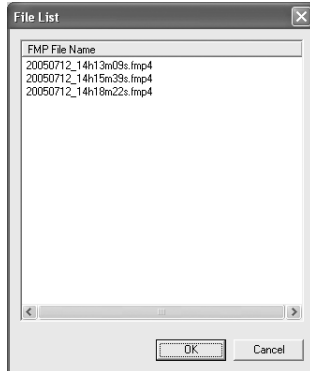


If you are connected to and recording from more than one SMO-210DN on the same PC, there will be more than one "Server Name" directory. You can always locate the file by choosing the Server Name directory. Within the Server Name directory, files are automatically saved with file names in time stamped format.

2. PLAY



When you select play and double click the file, that file will play back on the Remote Viewer as a motion clip.



3. PLAYER

- Player installation/execution/deletion
- Installation

Player will be installed together when it is connected to SMO-210DN.

- Execution (Follow the instruction to execute it separately.)

Click Start → Program → Smart Webviewer For WEB-MON → Player. (Fig. 3)



FIG.3

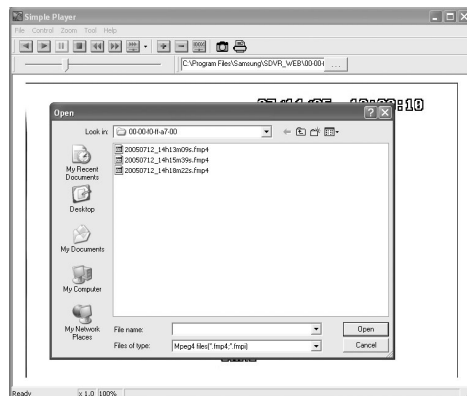
- Program screen configuration



- How to play

1. Playback

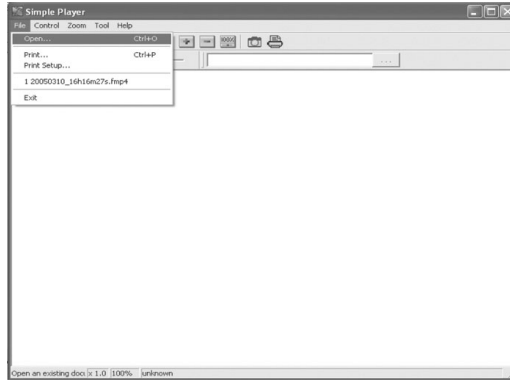
File - Open... Selecting this, you can choose between fmp4(moving image file) or fmpi(still image file) in the window as shown below.



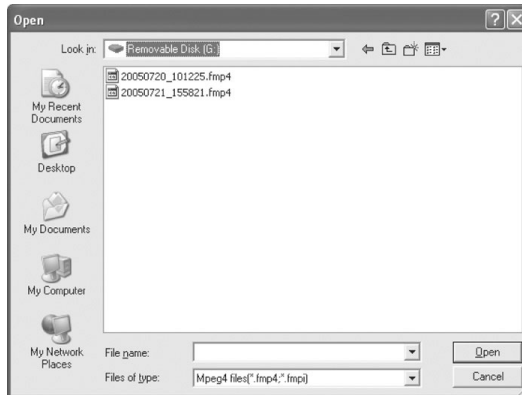
Having chosen and opened a file, you will see a picture such as shown below.



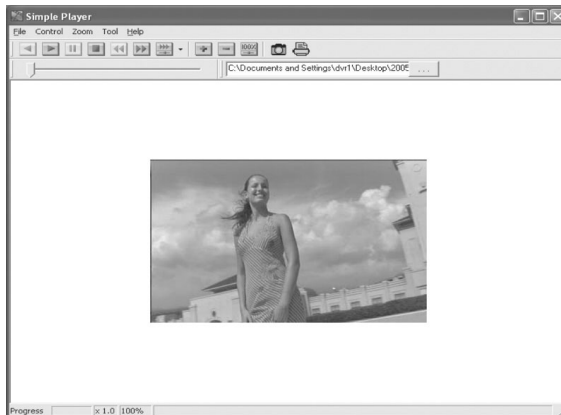
4. Click the File Open button from the menu.















5. Select the removable storage and choose one of "*.fmp4" file.




6. The selected ARCHIVE file is played back.



	Reverse playback		Enlarge
	Playback		Reduce
	Pause		Actual size
	Stop		Save the present frame as a FMPI image
	To the back frame		Print
	To the front frame	Status bar <hr/>	Display the playback speed, magnification, and information on the storage.
	Speed control		


- Snap shot

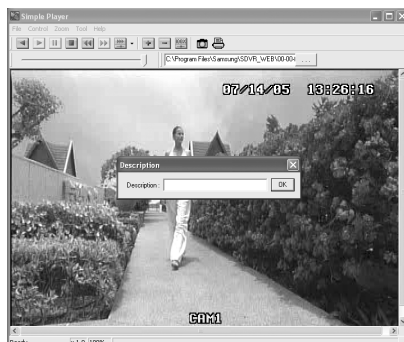
Save the present image as a form of fmpi file. Select  in the toolbar. The result will be as follows.



Type in the file name and press 'Save' to store it as a fmpi file.

- Print

Prints the present image. Select  in the toolbar. The result will be as follows. If you want to print the present image, click 'OK', otherwise, click "x".



Type in the phrase you added in "Description". Then press the "OK" button.



Select Print and press "OK".

8-3) Admin Menu

The following pages are geared towards advanced users who function as network administrators, and will be using the system in a network environment.

It is an administrator's menu to set the general items on SMO-210DN Server.

To use this menu, you need an administrator's ID and Password.

On delivery, they are "root" (administrator's ID) / "root" (administrator's Password).

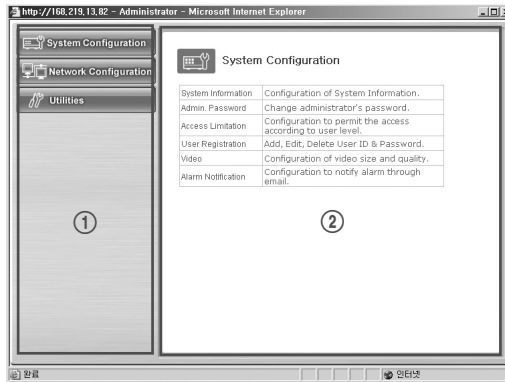
The password can be changed on Admin Menu.

Admin Menu Entering

- 1) When you connect to the SMO-210DN Server through Web browser, the initial screen will be as follows.



- 2) Type in the administrator and password in the user's name and password columns and press Enter key to execute the Admin Menu as shown below.



- 3) Screen configuration

- ① : General menus of Admin Menu. The menus related to SMO-210DN Server are divided into System, Network, and Utilities in the main menu. Each of them has several sub menus.
- ② : When you click one of the main menus (System Configuration, Network Configuration, Utilities), its sub menus and simplified explanation on them will appear.

• Admin Menu Structure

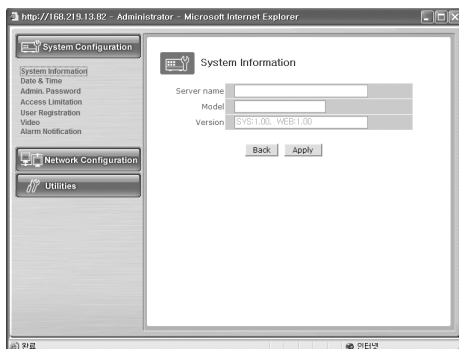
Category	Main Menu
System Configuration	System Information
	Date & Time
	Admin. Password
	Access Limitation
	User Registration
	Video
Network Configuration	Alarm Notification
	Network Configuration
	PPPoE(DSL)
	Network port
	View Network Status
	Network Status Notification
Utilities	DDNS Configuration
	Save Configuration
	Reboot
	System Update

8-3-1) System Configuration Menu.



1. System Information

In this menu, you can check the information on the system including the name of the SMO-210DN Server. Server name can be changed if desired.



- Menu Configuration

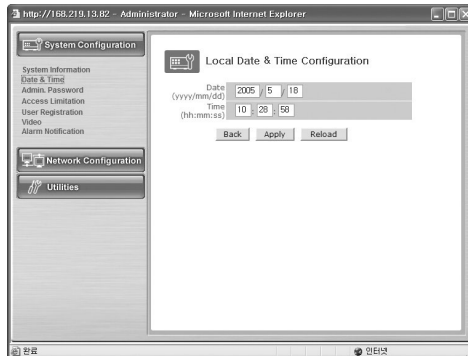
Server Name	Type in the name of the SMO-210DN Server. * Server's name should be composed of 19 or less numerals or English alphabetical letters. It cannot start with a numeral and should start with a letter. White characters including a space, tab, and a special letter cannot be used.
Model	Model name is SMO-210DN.
Version	SMO-210DN Server product's version

After completing setting, click Apply button.

If you click the back button, initial values are typed in all fields.

2. Date & Time

Set the display data format and current time.



3. Admin. Password

In this menu, the administrator (root) password can be changed.



- Menu Configuration

Administrator's ID	Administrator's ID is always "root".
Old Password	The initial password is "root".
New Password	Type the new password. * The password should be composed of 4-8 digit numerals or alphabets.
Confirm Password	Type the new password again.

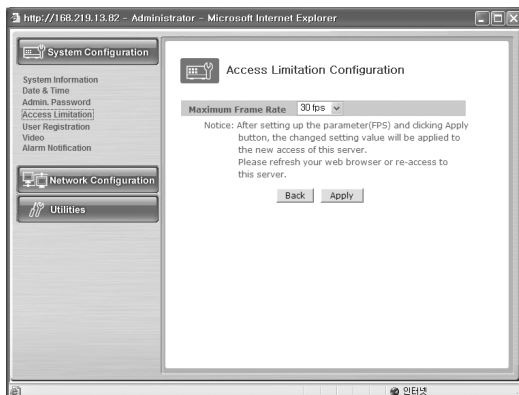
After completing setting, click Apply button.

The new password will be applied.

The user needs to log in again by using the new password.

4. Access Limitation

This menu is to set the targets the SMO-210DN Server can have a access to.



- Menu Configuration

<p>Access Limitation Configuration</p>	<p>This is to set limits for the frame speed for users who are registered in the system, to join and view images. The users, who join in the system after this setting, will be connected at the set speed. The access speed can be set on the Local Network depending on the network status. (30/15/10/5/2/1 ips)</p>
--	--

After completing setting, click Apply button.

5. User Registration

This is a user control menu to register, change, or delete the users who may have access SMO-210DN Server.



- Menu Configuration

User ID	Set the ID you want to register.
Password	Set the password you want to register.
Confirm Password	Type again the password you want to register.
Full Name	Type in the name you want to register.
Add	<p>This is a menu to register a user. It is to fix the user's ID, Password, name, and set the users accessibility to the system.</p> <ul style="list-style-type: none"> - Type in the user's ID in the User ID column. - Type in a password in the Password and Confirm columns. The user's ID and the password should be composed of 20 or less numerals or letters. - Type in the name of the user in Full Name column.
Edit	<p>On this menu, you can change the existing password and name. The user's ID cannot be changed. The configuration of the menu is same as Add, however you should select the user's ID on this menu.</p> <ul style="list-style-type: none"> - Choose Edit menu. - Click "Select User ID" in User ID and click the user's ID you want to edit. - Modify the password and name and click Apply button to apply the modified items.
Delete	<p>This menu is to delete the registered user.</p> <ul style="list-style-type: none"> - Choose Delete menu. - Choose the user's ID you want to delete in the box. - Click Delete button to delete the ID.

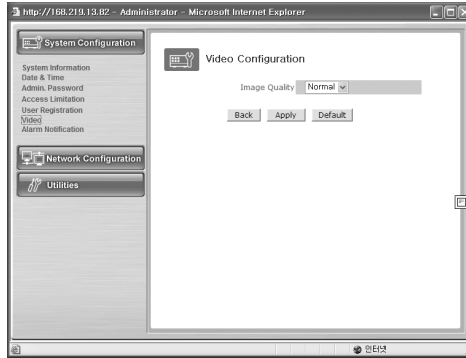
After completing setting, click Apply button.

If you click the back button, initial values are typed in all fields.

Note: A maximum of 5 users can log onto the system at one time.

6. Video

This is to set the data to be added in the video configuration and set an environment for each channel.



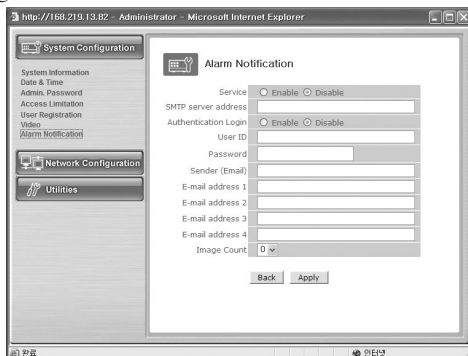
- Menu Configuration

Image Quality	This is to choose the image quality. You can choose between 3 levels (High / Normal / Low).
---------------	--

After completing setting, click Apply button.

7. Alarm Notification

This notifies the registered users of an alarm arising situation through e-mails. At this time, a maximum of 5 stored JPEG pictures, which were stored, can be sent together.



- Menu Configuration

Service	Choose enable if you want to send the ALARM notifying E-MAIL.
SMTP server address	SMTP server of the ISP that provides SMO-210DN with services. ISP's confirmation required.
Authentication Login	Choose enable if you want to log in the SMTP of the ISP providing SMO-210DN with services.
User ID	ID for the SMTP server of the ISP that provides SMO-210DN with services.
Password	Password for the SMTP server of the ISP that provides SMO-210DN with services.
Sender (E-mail)	Register the Administrator E-mail SMO-210DN
E-mail address 1 ~4	E-mail addresses you want to send the alarm notification to.
Image count	FMPI images to send. Up to 5 pictures can be sent at 0.5-second intervals. * Some SMTP servers may not support JPEG forwarding. Set this function after checking the SMTP server.

After completing setting, click Apply button.

EX) When user who has an e-mail address (SMO-210DN@yahoo.com) and password(123456) in YAHOO, sets "Alarm Notification" in order to send a mail to (test1@yahoo.com).

After completing setting, click Apply button.

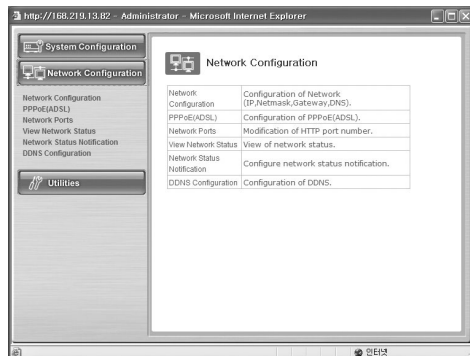
image transfer in your e-mail account.

In the event of Alarm, please use PLAYER to catch normal JPEG images. Otherwise, the image size will be reduced to a half JPEG size. Refer to Eng-8-7 "How to play" for the detailed usage of PLAYER .

8-3-2) Network Configuration Menu.

1. Network Configuration

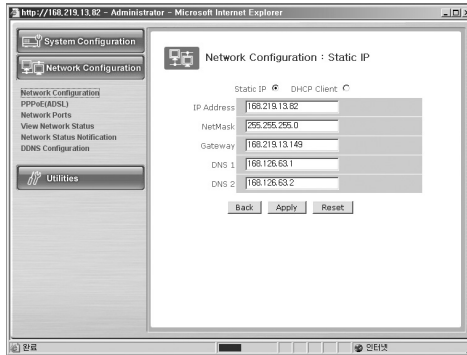
On this menu, you can fix the general environment related to the network of the SMO-210DN Server and check the present status.



- Menu Configuration

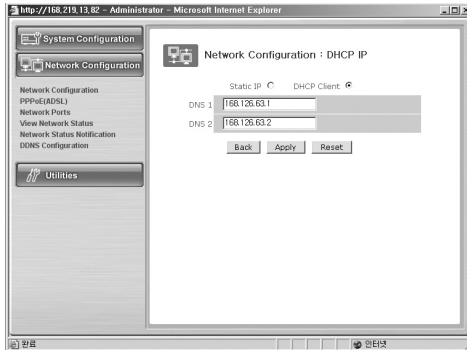
Network Configuration	Set "Static IP" or "DHCP".
PPPoE(DSL)	Set PPPoE (DSL).
Network Ports	Set "Network Port".
View Network Status	Modification of HTTP and other application network port numbers.
Network Status Notify	View network status.
DDNS Configuration	DDNS Configure

1-1. Network Configuration : Static IP



- 1) If the IP of the SMO-210DN Server is Static : Choose "Static IP".
- 2) Type in the IP Address you want to assign to the SMO-210DN Server, NetMask, GateWay, DNS1, and DNS2 addresses.

1-2. Network Configuration : DHCP Client



- 1) If the IP of the SMO-210DN Server is DHCP : Choose "DHCP Client".
- 2) Type in the addresses of DNS 1 and DNS 2.
- 3) Click Apply button to apply the settings.
If you click Reset button, the latest setting will be applied again.
Click Back button if you don't want to apply the setting.
- 4) If the mac address of an user is XX:XX:XX:FF:00:00, a user who uses DDNS but does not know the IP can connect the Viewer by typing as follows in the URL.
EX) <http://wff0000.websamsung.net>

* Note : MAC Address.

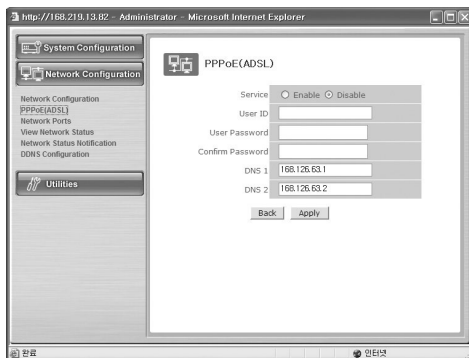
Locate the MAC Address of the SMO-210DN (each SMO-210N has its own unique MAC address). It can be checked in “ 5-9) NETWORK SETUP ” function and setting method (Eng-41)of SETUP MENU.

It is the last 6 digits as shown below.

NETWORK SETTING	
1. NETWORK ACCESS	STATIC...
2. HTTP PORT	00080
NETWORK STATUS	
IP ADDR	192.168.1.200
GATEWAY	192.168.1.65
SUBNETMASK	255.255.255.0
DNS 1	168.126.63.001
DNS 2	168.126.63.002
MAC ADDR	00:30:6f:ff:00:00

MENU -> SETUP MENU -> NETWORK SETUP

2. PPPoE (DSL) for Eth0



- 1) Service : Decide if you want to try PPPoE Connection or not.
- 2) User ID : User's ID that is registered in the ISP.
- 3) User Password : User's password that is registered in the ISP.
- 4) Confirm Password : Confirm the password.
- 5) DNS (Domain Name Service) : Service to convert a Domain Name (ex. www.yahoo.com) into an IP address (ex. 216.109.127.28).

The SMO-210DN Server uses this service to join the FTP server or other webs by the Domain Name.

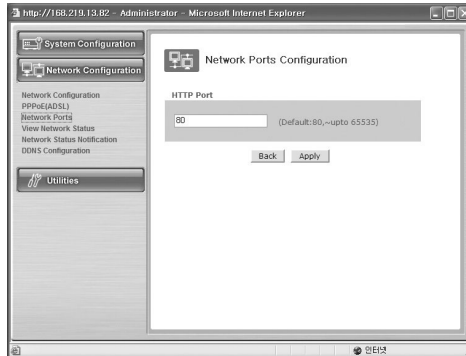
DSL service supports only PPPoE (Point to Point over the Ethernet).

DNS is a default value, so it does not need to change.

* **Note** : When connecting, ID & PASSWORD are limited to 40 characters.

3. Network Ports Configuration

It sets the HTTP Port number to use when the SMO-210DN Server communicates with a Client PC.



The present SMO-210DN Server uses HTTP Port (80).

- HTTP Port

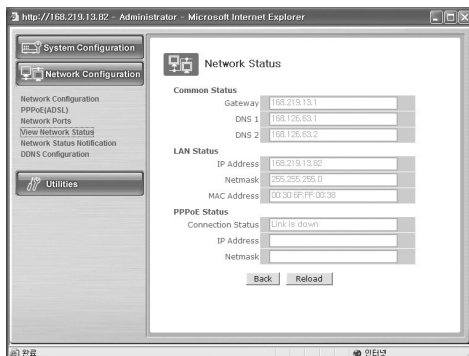
- 1) This is the port the Client PC uses to connect to the web page of the SMO-210DN Server.
Depending on the environment of the network, its value may vary.
- 2) The default value is 80 and can be assigned up to 65535 maximum.
 - * If you change the value of the HTTP Port, you should type in the new one with the address of the SMO-210DN Server in the address window of the web browser.
(Ex. If the IP address of the SMO-210DN Server is 192.168.1.100 and the HTTP Port : 8080, http://192.168.1.100:8080.)
- 3) Click Apply button to apply the present setting.

CAUTION

Set the port to be used when connecting to SMO-210DN in Internet Explorer.
The port setting is used for various network configurations, for example when connecting to a network with firewalls.

4. View Network Status

This is a menu to see the general status of the network setting of the SMO-210DN Server.



- Menu Configuration

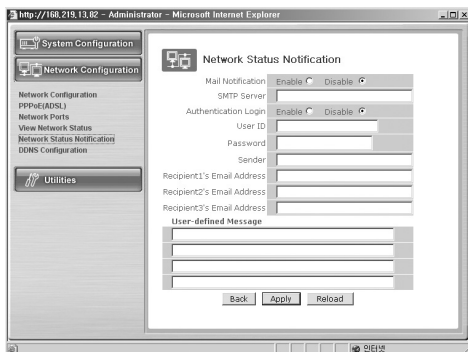
Common Status	To check the status of the Gateway, DNS 1, and DNS 2.
LAN Status	To check the status of the STATIC IP Address, Netmask, and MAC Address.
PPPoE Status	If the PPPoE service is connected, the Link is up. At this time, the service IP and NETMASK can also be checked. If the PPPoE service is not connected, the Link is down. The existing setting will be recalled if you press Reload button.

5. Network Status Notification

When there is a change in the setting status of the SMO-210DN Server, it sends e-mails to the people who want it. Set Mail Notification to "Enable" to send the network setting status of the SMO-210DN Server to the specified e-mail addresses as follows:

There are some conditions required for this setting.

- 1) DHCP Client has been set in "Network Configuration" menu and an IP has been assigned from the actual DHCP Server to make communication possible.
- 2) PPP Client has been set in "PPPoE" menu and communication has become possible through the connection with ISP or PPP Server.



- Menu Configuration

Mail Notification	E-mail forwarding or not. Enable : Forward E-mails. Disable : Doesn't forward E-mails.
SMTP Server	Type in the address of the server that provides e-mail relay function.
Authentication Login	Shows if the ISP has an authentication for the use of SMTP.
User ID	ID for Authentication Login
Password	Password for Authentication Login
Sender(Email Address)	Type in the addresses of the sender.
Recipient 1's Email Address	Type in the addresses of the recipients. (3 addresses maximum.)

click "Network Status Notify" in the Network Configuration group.

Choose to use the Mail Notification function or not. Choose "Enable" if you want to notify the network status of the SMO-210DN Server to people through e-mails.

Type the address of the SMTP Server.

*** SMTP Server plays a part as a relay that receives the mail of the user and delivers it to the receiver.**

Set "Authentication Login" to enable and type in the ID and password assigned from the SMTP server.

Type the e-mail address of the person who receives the E-mail. Maximum 3 people can receive the mail.

Type the message you want to add in "User Defined Message".

After completing setting, click Apply button.

If you click the reset button, it will return to the latest setting.

EX) When user who has an e-mail address (SMO-210DN@yahoo.com) and password(123456) in YAHOO sets "Alarm Notification" in order to send a mail to test1@yahoo.com...

6. DDNS Configuration



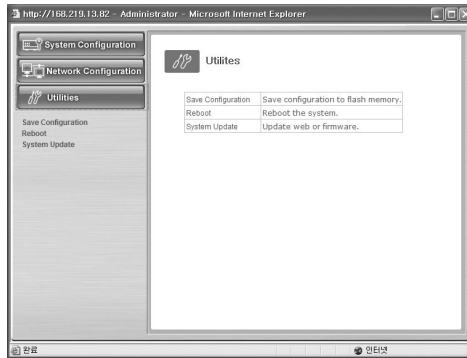
- Menu Configuration

Service	Select Enable or Disable
DDNS Server	Websamsung.net
Note	The domain name of this system is <u>wff0000.websamsung.net</u>

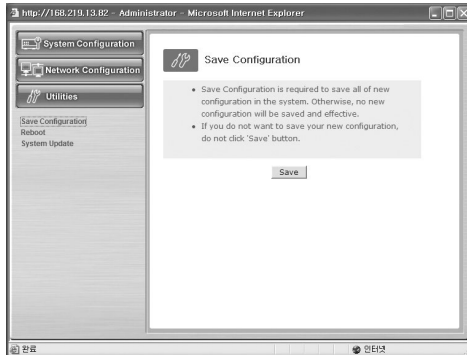
CAUTION

Since the connection to SMO-210DN is made using domain names (EX : http://wff0000.websamsung.net) that are automatically registered in Samsung's DDNS server when using a DHCP configuration; the IP address, Subnet Mask and Gateway in the Network Tab of Admin Mode do not need to be inputted. The proper domain names of SMO-210DN are automatically registered to the Samsung DDNS server.

8-3-3) Utilities.



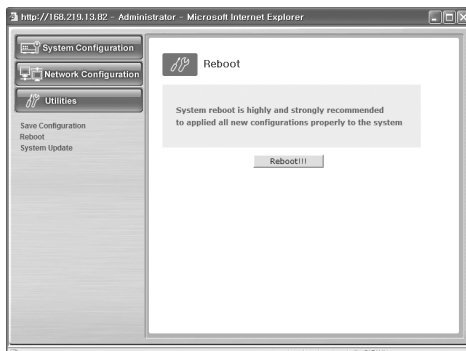
1. Save Configuration



This menu is to save all of the present settings in the Flash Memory.

If you changed any of the settings for the SMO-210DN, it is recommended that you save it in the Flash Memory in this menu.

2. Reboot



This menu is for the rebooting of the system. It is better to reboot the system if you change the setting and update the flash.

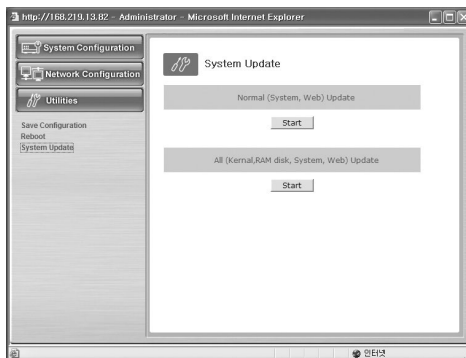
1. Click “Reboot” in the utilities group.
2. Click “Reboot!!!”.

3. System Update

This menu is to update the inner programs and data of the SMO-210DN Server. They are recorded in the Flash Memory and composed of 4 parts called Kernel Image, Ram disk Image, System Image, and Web Image respectively.

Each image file should be stored in the user's PC for update.

Depending on the range you want to update, press the start button properly.



Normal (System and Web) Update	Update the System and Web.
All (Kernel, RAM disk, System, Web) Update	Update all 4 images of Kernel, RAM Disk, System, and Web.

3-1. Normal (System and Web) Update

When you click the start button located in the bottom of Normal (System and Web) Update, a window will appear to ask if you want to update.

Click "Cancel" to stop updating. Click "OK" to proceed updating.

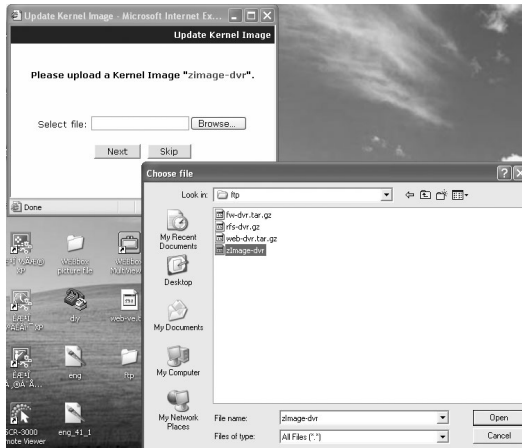
Other processes are same as the process of "All Update". (Excluding the update of Kernel and RAM disk)

After completing the update, click the reboot button to reboot the system.

3-2. All (kernel, RAM disk, System, Web) Update

When you click the start button in All update, a window will appear to ask if you want to update. Click "Cancel" to stop updating.

1. "OK" to proceed updating.
2. A pop-up window will appear. Choose "zimage-dvr" in the browser.



3. Click "Next" button to move to the next stage.

Click "Skip" button to move to the next stage without updating the Kernel Image.

Click "Next" button and a window will appear to check the name and size of the file.



Click Previous button to go back to the previous stage.

Click the Next button to execute update of the program and move to the next stage.

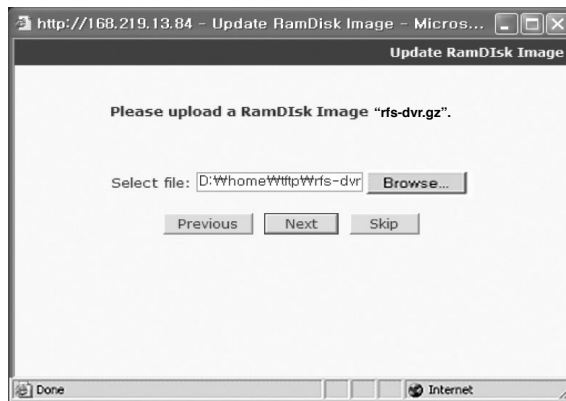
Click the Cancel button to stop the update process.

4. In the next stage, a pop-up window will appear for the file searching for the RAM Disk Update.

Choose "rfs-dvr.gz" in the browser.



5. Click "Next" button to move to the next stage.



Click "Skip" button to move to the next stage without updating the Kernel Image.

Click "Next" button and a window will appear to check the name and size of the file.

Click "Previous" button to go back to the previous stage.

Click the Next button to execute update of the program and move to the next stage.

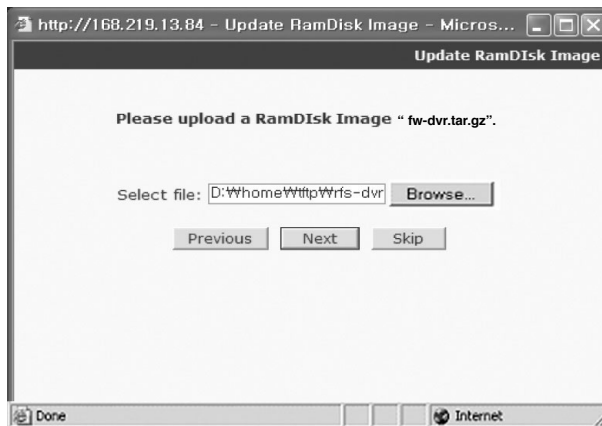
Click the Cancel button to stop the update process.

6. In the next stage, a pop-up window will appear for the file searching process for the System Image Update.

Choose "fw-dvr.tar.gz" in the browser.



7. Click "Next" button to move to the next stage.



Click "Skip" button to move to the next stage without updating the kernel Image.

Click "Next" button and a window will appear to check the name and size of the file.

Click "Previous" button to go back to the previous stage.

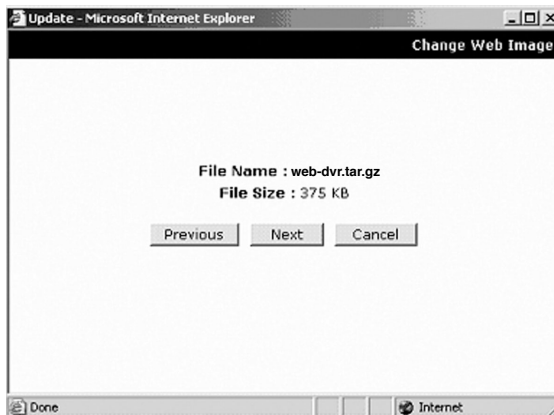
Click the Next button to execute update of the program and move to the next stage.

Click the Cancel button to stop the update process.

8. In the next stage, a pop-up window will appear for the file searching process for the System Image Update. Choose "web-dvr.tar.gz" in the browser.

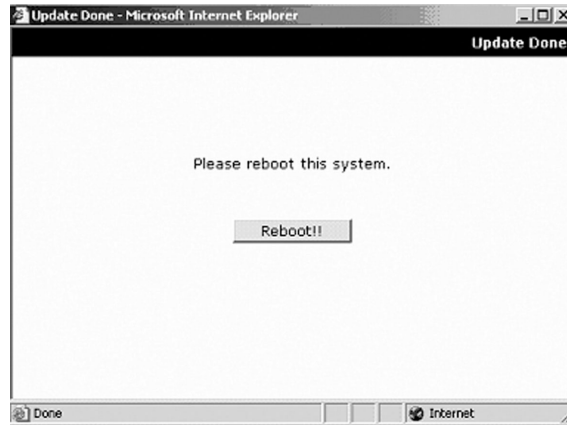


9. Click "Next" button to move to the next stage.



- Click "Skip" button to move to the next stage without updating the Kernel Image.
Click "Next" button and a window will appear to check the name and size of the file.
Click "Previous" button to go back to the previous stage.
Click the Next button to execute update of the program and move to the next stage.
Click the Cancel button to stop the update process.

10. A window will appear for rebooting after completing all the update processes.



Click the reboot button and press the confirmation button to reboot the system.



11. Close your web browser and wait for about a minute before you log in again

Files related to the update of SMO-210DN

Kernel Image	zimage-dvr
RAM Disk Image	rfs-dvr.gz
System Image	fw-dvr.tar.gz
Web page Image	web-dvr.tar.gz

The window shown above may not appear if there is a pop-up blocker installed in the user's PC. If you update system on a web page, you should disable the pop-up blocker to proceed.

* **Note** : Software updates and user manuals can be downloaded at <http://www.securitysamsung.com>
Refer to Appendix A (Eng-11-1).

Memo



■ Chapter 9

Functions

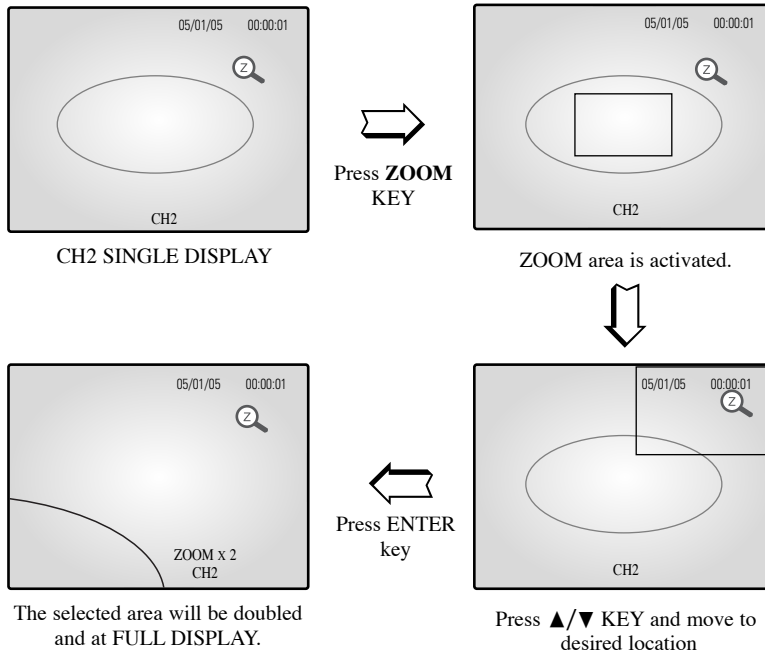
9-1) FREEZE KEY

	05/01/05	00:00:01
CAM1	CAM2	CAM3
CAM4	CAM5	CAM6
CAM7	CAM8	

- If the "FREEZE" key is pressed, the "II" Marker is displayed at the right of top screen and the screen is frozen. Press the "FREEZE" key again to make the "II" Marker disappear and cancel the FREEZE function.

9-2) ZOOM MODE DISPLAY

When users want to see a zoomed image of a specific area of the display, press the ZOOM KEY to display the selected area. Select zoom target area by using ▲/▼ KEY, and press the ENTER SWITCH, then, the selected area will be displayed at full single mode with zoomed area doubled. When Zoom is used in SINGLE DISPLAY MODE (CH2), the operation will be carried out as shown in figure below. (You can select nine Zoom areas on the screen in SINGLE DISPLAY MODE.)

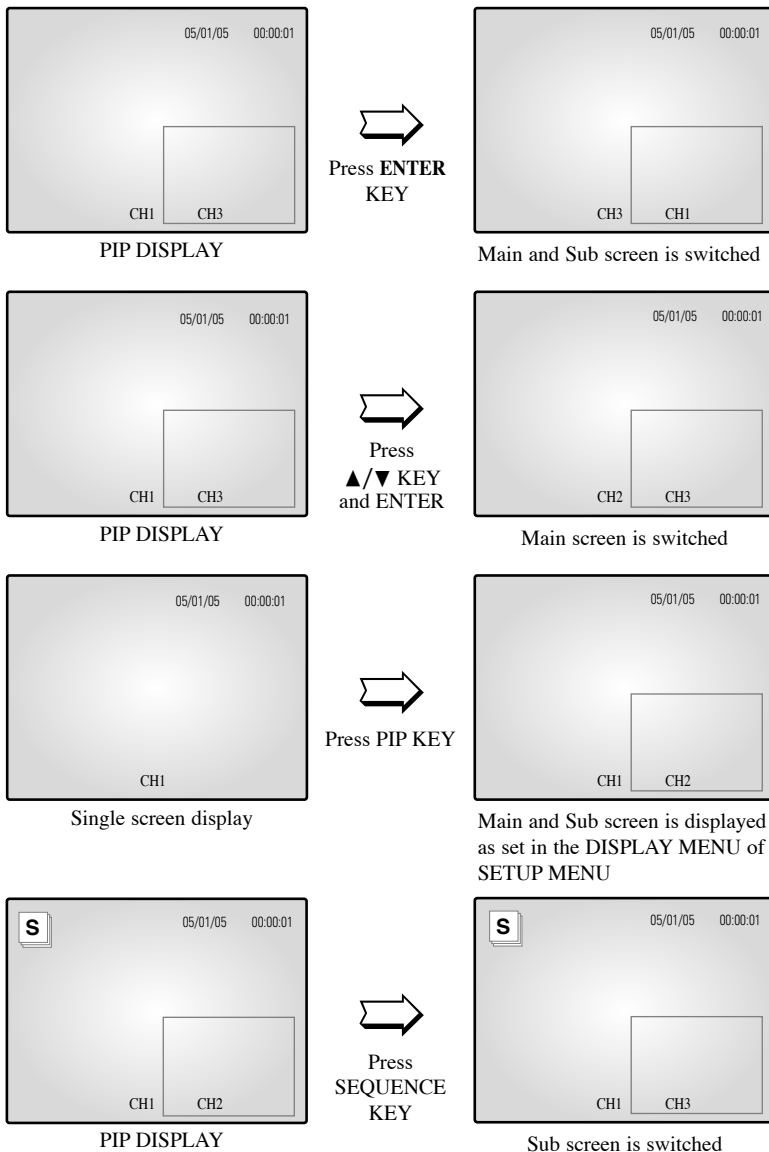


9-3) PIP MODE DISPLAY

Can be used to view the PIP screen in Single screen mode.

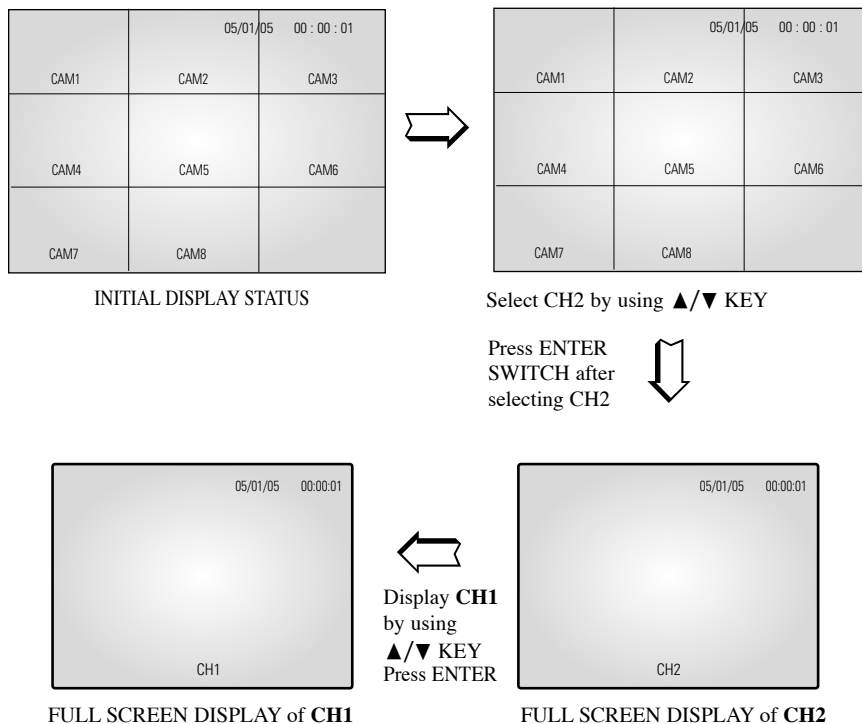
If you press SEQUENCE, the PIP Sub- screen will change. If you press the

▲/▼ , ◀/▶KEY, the main screen can be transferred to another channel. Sub-screen location can be selected in CLOCK/DISPLAY MENU in SETUP MENU.



9-4) SINGLE SCREEN DISPLAY

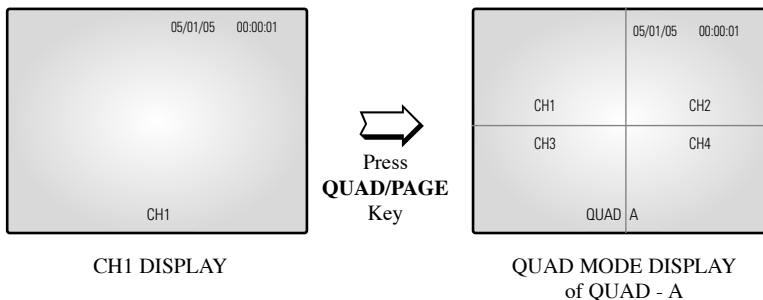
Initial display mode of monitor is QUAD - A. If you want to see the camera image at full mode, select a target camera by using ▲/▼ or ◀/▶KEY. After that, press the ENTER SWITCH and selected camera image will be displayed at full screen. If you press the ▲/▼ or ◀/▶ KEY SINGLE DISPLAY MODE at this time, you can see another camera image at full screen. For example, when you want to see CH1 at FULL MODE after SINGLE - displaying CH2 at QUAD - A, please follow the instructions below.



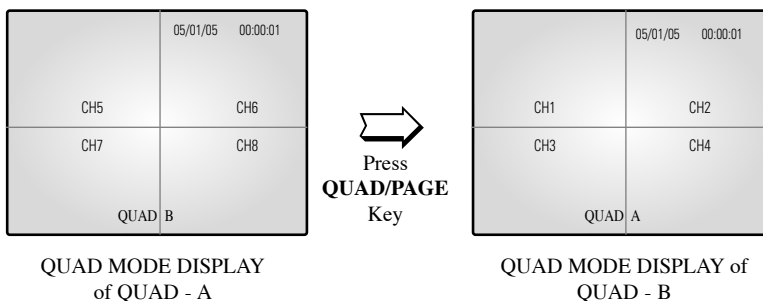
9-5) QUAD MODE DISPLAY

Users can switch SINGLE DISPLAYMODE and SEQUENTIAL DISPLAYMODE to QUAD DISPLAY MODE, or QUAD - A (QUAD - B) to QUAD - B (QUAD - A), or PIP MODE to QUAD MODE, press the QUAD/PAGE KEY.

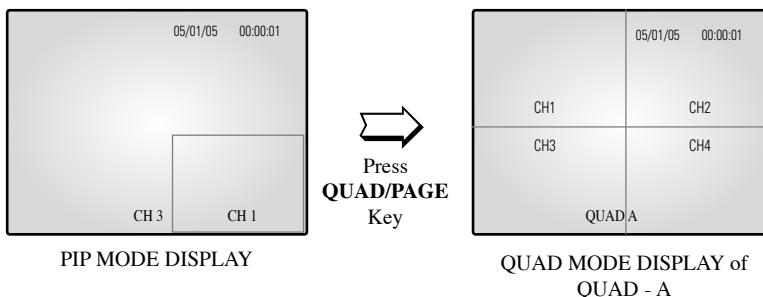
* QUAD MODE display from SINGLE MODE or SEQUENCE MODE,



* QUAD B(QUAD A) display from QUAD A(QUAD B),



* At QUAD B(QUAD - A) display from PIP MODE,

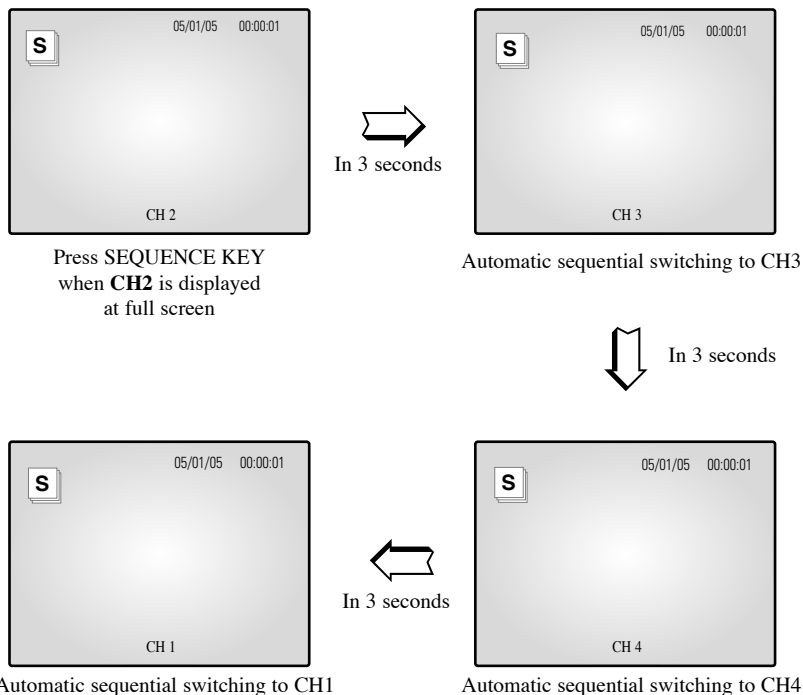


9-6) AUTO SEQUENTIAL DISPLAY MODE

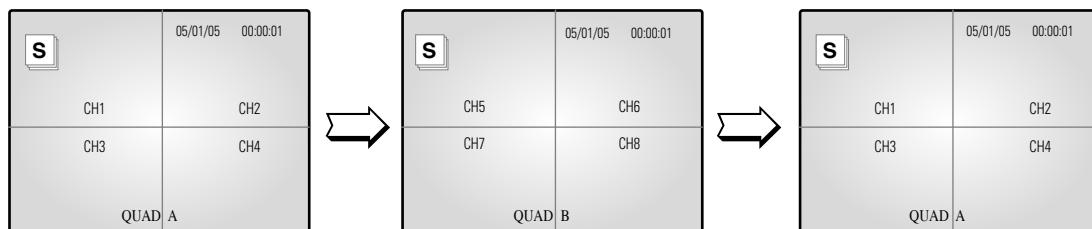
Pressing the SEQUENCE KEY allows Single or Quad mode screens to automatically switch. ('no-signal' channels will be skipped while single screen is auto-switching.)

If the DWELL TIME SETTING of SETUP MENU is set to 3 seconds and the SEQUENCE KEY is pressed, the operation will be carried out as follows.

* SINGLE MODE SEQUENCE DISPLAY



* QUAD MODE SEQUENCE DISPLAY

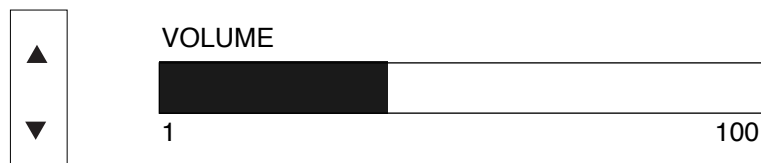


9-7) LIVE/PB/TRIPLEX KEY

	▶ Play	05/01/05	00:00:01
PB1	PB2	PB3	PB4
PB5	PB6	PB7	PB8
CH1	CH2	CH3	CH4
CH5	CH6	CH7	CH8

- PB screen at the top of screen and LIVE screen at the bottom of screen are output at the same time.

9-8) VOLUME KEY



- Adjust the volume by use of the +/- key.
- Volume can be adjusted from 1 to 100.

Memo



■ Chapter 10

Product features

Chapter 10 : Product specifications

10-1) SOC-C120 : Standard Camera

Model Name	SOC-C120
Broadcasting System	NTSC STANDARD
Imaging Device	1/4" SUPER HAD (Hole Accumulation Diode) IT CCD
Effective Pixels S	510(H) x 492(V)
Synchronization	Internal
Resolution	H :330 TV Lines, V: 350 TV Lines
Signal Output	VBS 1.0Vp-p(75ohms composite)
S/N Ratio	≤ 48 dB
Minimum Scene Illumination	2lux(F2.0, 50 IRE)
Gamma Correction	0.45
Lens	Focal Length (f) : 3.8 mm, F Number = 2.0
Auto Exposure	Electronic Shutter Iris
Audio	-40dB Condenser Microphone Inclusion
I/O Connectors	Modular jack
Operating Temperature	+32 °F ~ +104 °F
Power Source	DC 12V
Power Consumption	Approx. 2W
Dimensions	2.25(W) x 1.86(H) x 3.95(L) inch
Weight	0.29 lbs

10-2) SOC-D120 : Dome Camera

Model Name	SOC-D120
Broadcasting System	NTSC STANDARD
Imaging Device	1/4 "SUPER HAD IT CCD
Effective Pixels S	510(H) x 492(V)
Synchronization	Internal
Resolution	H :330 TV Lines, V: 350 TV Lines
Signal Output	VBS 1.0Vp-p(75ohms composite)
S/N Ratio	≤ 48 dB
Minimum Scene Illumination	2lux(F2.0, 50 IRE)
Gamma Correction	0.45
Lens	Focal Length (f) : 3.8mm, F Number = 2.0
Auto Exposure	Electronic Shutter Iris
Audio	-40dB Condenser Microphone Inclusion
I/O Connectors	Modular jack
Operating Temperature	+32 °F ~ +104 °F
Power Source	DC 12V
Power Consumption	Approx. 2W
Dimensions	3.94(Ø) x 2.56(H) inch
Weight	0.18 lbs

10-3) SOC-P120 :PIR Camera

Model Name	SOC-D120
Broadcasting System	NTSC Standard
Imaging Device	1/4" Color IT CCD
Effective Pixels S	510(H) x 492(V)
Synchronization	Internal
Resolution	H :330 TV Lines, V: 350 TV Lines
Signal Output	VBS 1.0Vp-p(75ohms composite)
S/N Ratio	≤ 48 dB
Minimum Scene Illumination	2 lux(F2.0, 50IRE)
Gamma Correction	0.45
Lens	Focal Length (f) : 3.8mm, F Number = 2.0
Auto Exposure	Electronic Shutter Iris
PIR Sensor	Mounting Height : 1.5m to 3m(5ft to 10ft) Warm-Up Period : Max. 50 seconds Spectral Response : 5 to 14 um Sensitivity : 4860(V/W) Detectivity : 1.5 X 10
Audio	Sensor : Off/On Alarm LED : Off/On (0.3~2 sec) Alarm Output : NC (350V/130mA) -40dB Condenser Microphone Inclusion
I/O Connectors	Modular Jack (RJ-11)
Operating Temperature	+32 °F ~ +104 °F
Power Source	DC 12V (Camera & Sensor from Monitor)
Power Consumption	DC 12V (External Power Supplier) Approx. 2W
Dimensions	2.74(W) x 4.53(H) x 2.13(L) inch
Weight	About 0.33 lbs

10-4) OBSERVATION MONITOR

Video Input	<ul style="list-style-type: none"> CAMERA 8 Input: 1.0V_{p-p}(CVBS), 75Ω(vertical)
Video Output	<ul style="list-style-type: none"> VIDEO 1 Output : RCA TYPE, CVBS
Audio Input	<ul style="list-style-type: none"> CAMERA 8 Input:
Audio Output	<ul style="list-style-type: none"> AUDIO 1 Output : RCA TYPE
Alarm/Motion Features: Connected to Alarm Box/Camera	<p>A/O (HOT, COLD) : Relay Active</p> <p>A/R (Alarm Reset) : Open Collector "L" Level, Pulse Width =150ms or above</p> <p>Alarm Hold Time : Select 5 sec, 15 sec, 30 sec, 1 min, 3 min, 5 min, 10 min, 20 min, 30 min..</p>
Sequence	Select between 01 sec to 30 sec.
Event List	(max) 64 case
Display mode	Single mode, Quad A mode, Quad B mode, PIP, Sequence Freeze, Zoom(X2)
Horizontal Resolution	350 TV Lines or more (Live Mode Full Screen)
Operation Temperature	+32 °F ~ +104 °F
CRT	21" FLAT MONITOR
Dimension(W x D x H(inch))	21" - (MONITOR)19.3 x 17.5 x 18.8, (PACKING)24.4 x 28.1 x 23.4
Weight	21" - (MONITOR) 58.21 lbs, (PACKING) 76.51 lbs
Power consumption	110W
Video system	NTSC VIDEO SYSTEM
Operation Humidity Range	20%~85%
AC Input Ranges	AC 120V, 60Hz
Audio Output[watt]	1.5W

10-5) NETWORK

Hardware	<ul style="list-style-type: none"> • 32bit Embedded Processor • Flash Memory : 8Mbytes • SDRAM : 32Mbytes
Network Protocols	<ul style="list-style-type: none"> • HTTP, TCP/IP, FTP, Telnet, ARP, PPP, DHCP, PPPoE
Image Compression & Quality	<ul style="list-style-type: none"> • Compression Algorithm : Real-time fmpi • Rate : 30 fps for each channel • Quality : 3 levels
Video Format	<ul style="list-style-type: none"> • NTSC
Video Resolution	<ul style="list-style-type: none"> • NTSC, 352x240, 704x240
Performance	<ul style="list-style-type: none"> • Max 30 Frames Per Second (NTSC)
Management	<ul style="list-style-type: none"> • Configuration by serial port or web browser • Remote Flash memory update
LAN Interface	<ul style="list-style-type: none"> • 10/100 Base-T Fast Ethernet
Security Function	<ul style="list-style-type: none"> • Password protected server access
PC Specification	<ul style="list-style-type: none"> • CPU_Pentium IV 1GHz higher • RAM_256MB or higher • Video Memory_32MB or higher • Resolution_1024x768 or higher • OS_Windows 2000/XP Service Pack • installation recommended • Web Brower_Internet Explorer 5.5 or later



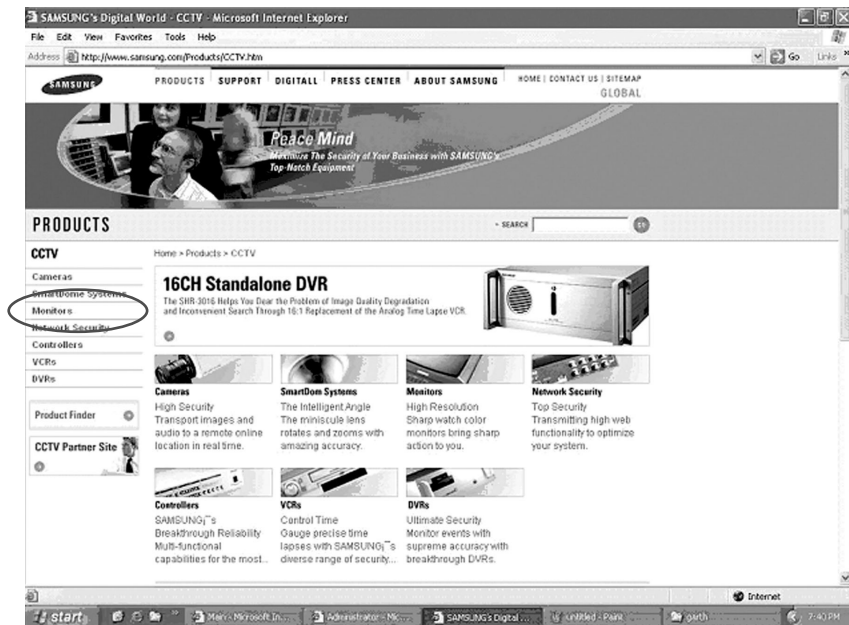
■ Chapter 11

Appendix

Appendix A) Software UPDATE

The initial screen of Samsung Electronics' web site is as follows.

1. <http://www.securitysamsung.com>
<http://www.samsung.com/Products/CCTV.htm>
2. Network Security in Homepage
3. Download the following items for SMO-210DN.
 - ① Owner's manual - SMO-210DN Owner's manual
 - ② UP-GRADE S/W - kernel, RAM disk, System, Web



Appendix B) IP Router Setup Guide

List of Routers compatible with SMO-210DN.

Refer to Router User's Manual for the detailed router setup.

Step-by-Step Examples :

Linksys (Model : WRT54G)

Netgear (Model : WGR614v4)

D-Link (Model : DI-624+)

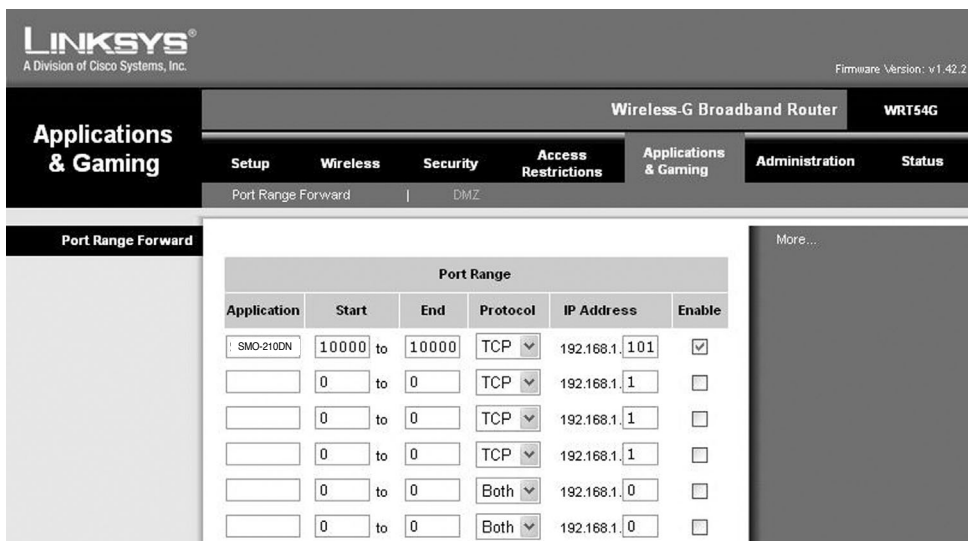
SMC (Model : 7004VBR)

CAUTION

Other routers may be incompatible with SMO-210DN.

Step-by-Step Setup Example of IP Router

Linksys model WRT54G



1. Click the “Application and Gaming” tab.

2. Click “Port Range Forward”.

3. Port forwarding

Row #1 :

① Application : Set this to “HTTP”

② Start and End : Set both to “From 10000 to 65535”

③ Protocol : Select “TCP”

④ IP Address : SETUP MENU -> 5-9) NETWORK SETUP -> Check IP from network status to apply it identically to Private IP after DHCP setup.
(Eng-5-12 Setup)

* It is not in use by any other device connected to the IP Router including the Local PC.

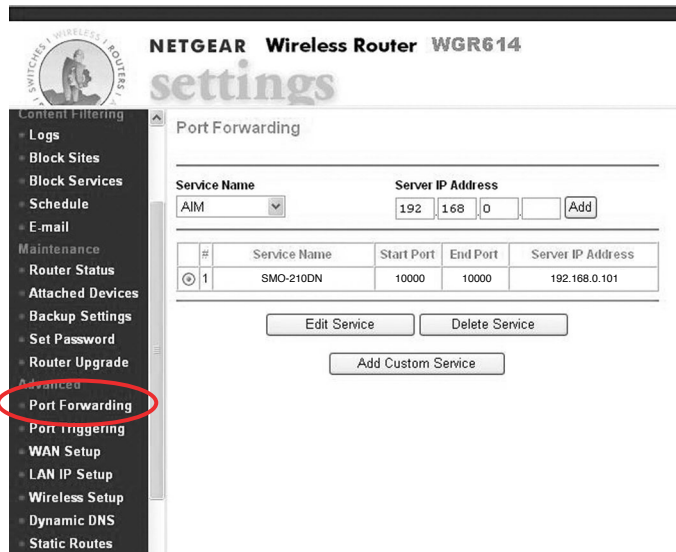
⑤ Enable : Leave this “checked”

4. Click “Save Settings”

5. Close browser window.

Step-by-Step Setup Example of IP Router

Netgear model WGR614v4



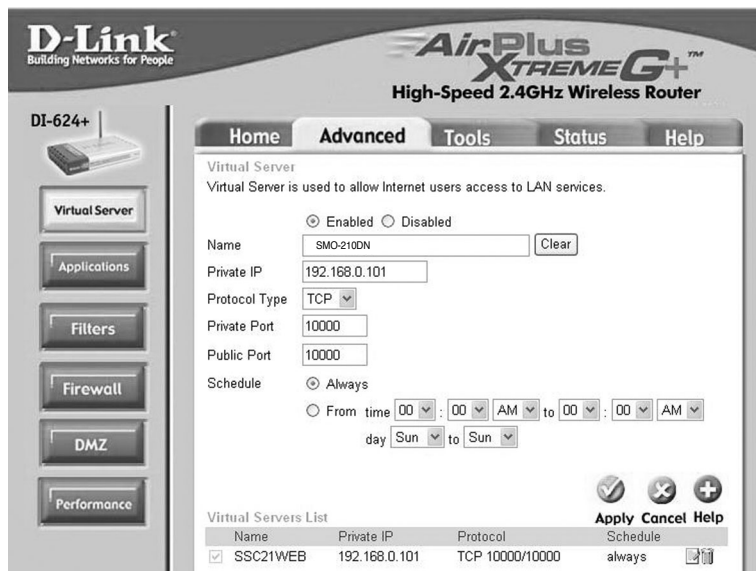
1. Click the “Router Status”
2. Click the WAN and LAN Port information.
Write down the WAN Port IP Subnet Mask number and the LAN Port IP Address number.
You will need it later when setting up the SMO-210DN.
3. Click “Advanced” and “Port Forwarding”
4. Port forwarding (HTTP)
 - ① Click “Add Custom Service”
 - ② Service Name : Set this to “HTTP”
 - ③ Start Port and End Port : Set both to “From 10000 to 65535”
 - ④ Server IP Address : SETUP MENU -> 5-9) NETWORK SETUP-> Check IP from network status to apply it identically to Private IP after DHCP setup. (Eng-5-12 Setup)

* It is not in use by any other device connected to the IP Router including the Local PC.

 - ⑤ Make sure “Enable” is checked.
 - ⑥ Click “Add”
5. Close browser window.

Step-by-Step Setup Example of IP Router

D-Link model DI-624+



1. Select “Virtual Server” and “Advanced”

You need to create Virtual Servers (Port Forwarding) for HTTP, TCP and Upgrade separately.

2. Virtual Server (Port Forwarding) for HTTP

- ① Enabled : Leave this “checked”
- ② Name : Set this to “HTTP”
- ③ Private IP : SETUP MENU -> 5-9) NETWORK SETUP -> Check IP from network status to apply it identically to Private IP after DHCP setup. (Eng- 5-12 Setup)

* That is not in use by any other device connected to the IP Router including the Local PC.

- ④ Protocol Type : Select “TCP”
- ⑤ Private Port and Public Port : Set both to “From 10000 to 65535”
- ⑥ Schedule : Select “Always”
- ⑦ Click “Apply”

3. Close browser window.

Step-by-Step Setup Example of IP Router

SMC model 7004VBR

Virtual Server

You can configure the Baricade as a virtual server so that remote users accessing services such as the Web or FTP at your local site via public IP addresses can be redirected to local servers configured with private IP addresses. In other words, depending on the requested service (TCP/UDP port number), the Wireless Baricade redirects external service requests to the appropriate server (located at another internal IP address).

Well known services: ID

ID	IP Address	Port/s	Data Type	Enable
1	192.168.2.101	10000	TCP	<input checked="" type="checkbox"/>
2	192.168.2.		TCP	<input type="checkbox"/>
3	192.168.2.		TCP	<input type="checkbox"/>
4	192.168.2.		TCP	<input type="checkbox"/>
5	192.168.2.		TCP	<input type="checkbox"/>
6	192.168.2.		TCP	<input type="checkbox"/>
7	192.168.2.		TCP	<input type="checkbox"/>

1. Select "NAT" and "Virtual Server"

You need to create Virtual Servers (Port Forwarding) for HTTP

2. Virtual Server (Port Forwarding) for HTTP : use the first empty ID row.

- ① IP Address : SETUP MENU -> 5-9) NETWORK SETUP -> Check IP from network status to apply it identically to Private IP after DHCP setup. (Eng-5-12 Setup)

* That is not in use by any other device connected to the Router including the Local PC.

- ② Private Port and Public Port : Set both to "From 10000 to 65535"
- ③ Data Type : Select "TCP"
- ④ Enable : Leave this "checked"

3. Click "APPLY"

4. Close browser window.



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